# CURTIS'S

# BOTANICAL MAGAZINE,

COMPRISING THE

## Plants of the Royal Gardens of Kew

AND

OF OTHER BOTANICAL ESTABLISHMENTS IN GREAT BRITAIN;

WITH SUITABLE DESCRIPTIONS;

BY

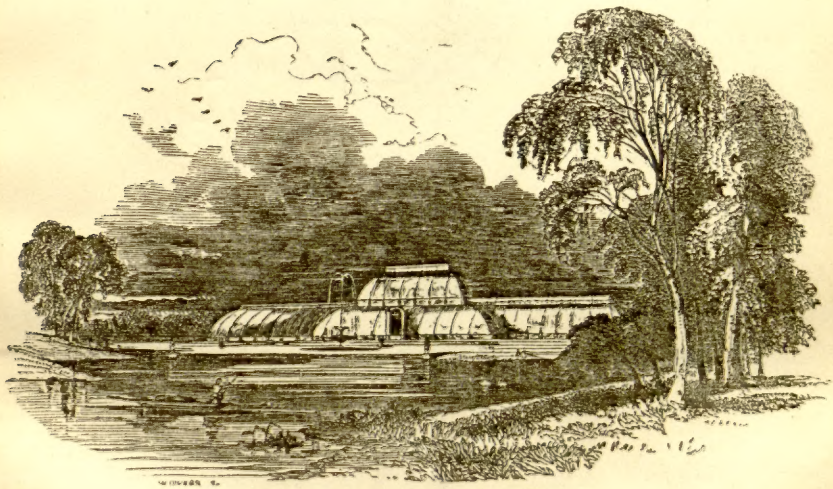
SIR WILLIAM JACKSON HOOKER, K.H., D.C.L. Oxon.,

F.L.S., CORRESPONDING MEMBER OF THE ACADEMY OF SCIENCES OF THE IMPERIAL INSTITUTE OF FRANCE, AND DIRECTOR OF THE ROYAL GARDENS OF KEW.

VOL. XVI.

OF THE THIRD SERIES;

*(Or Vol. LXXXVI. of the Whole Work.)*



"So sits enthroned in vegetable pride
Imperial Kew, by Thames's glittering side."

LONDON:

LOVELL REEVE, HENRIETTA STREET, COVENT GARDEN.

1860.

pls. 5157 – 5222

JOHN EDWARD TAYLOR, PRINTER,
LITTLE QUEEN STREET LINCOLN'S INN FIELDS.

TO

# G. H. K. THWAITES, ESQ., F.L.S.,

THE ABLE AUTHOR OF 'ENUMERATIO PLANTARUM ZEYLANIÆ'

AND THE TALENTED SUPERINTENDENT OF

THE ROYAL BOTANIC GARDEN, PERADENIA, CEYLON,

## The present Volume is Dedicated,

IN TESTIMONY OF THE HIGHEST ESTEEM AND REGARD,

BY

HIS AFFECTIONATE FRIEND

THE AUTHOR.

Royal Gardens, Kew,
*December* 1, 1860.

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TO

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| 72 | 4268 | —— incarnata. |
| 86 | 5185 | —— incarnata; *var.* Trianai. |
| 75 | 4420 | —— macrantha. |
| 72 | 4271 | Scutellaria Ventenatii. |
| 80 | 4789 | —— villosa. |
| 83 | 4961 | Seaforthia elegans. |
| 79 | 4727 | Semeiandra grandiflora. |
| 80 | 4803 | Senecio præcox. |
| 71 | 4134 | Sida graveolens. |
| 74 | 4360 | —— (Abutilon) integerrima. |
| 71 | 4170 | —— pæoniæflora. |
| 75 | 4463 | —— (Abutilon) venosa. |
| 72 | 4227 | —— vitifolia. |
| 72 | 4212 | Sinningia velutina. |
| 82 | 4954 | —— Youngiana. |
| 71 | 4178 | Siphocampylos coccineus. |
| 73 | 4331 | —— glandulosus. |
| 74 | 4403 | —— manattiæflorus. |
| 73 | 4286 | —— microstoma. |
| 79 | 4719 | Skimmia Japonica. |
| 71 | 4194 | Smeathmannia lævigata. |
| 74 | 4364 | —— pubescens. |
| 73 | 4283 | Smithia purpurea. |
| 78 | 4682 | Sobralia chlorantha. |
| 81 | 4882 | —— fragrans. |
| 75 | 4446 | —— macrantha. |
| 77 | 4570 | —— sessilis. |
| 74 | 4345 | Solandra lævis. |
| 71 | 4138 | Solanum macranthum. |
| 86 | 5222 | —— runcinatum. |
| 86 | 5219 | Sonchus gummifer. |
| 86 | 5211 | —— radicatus. |
| 83 | 4978 | Sonerila elegans. |
| 85 | 5104 | —— margaritacea. |
| 84 | 5026 | —— speciosa. |
| 74 | 4394 | —— stricta. |
| 85 | 5091 | Spathodea campanulata. |
| 76 | 4537 | —— lævis. |
| 77 | 4614 | Sphærostema propinquum. |
| 85 | 5151 | Spiræa Douglasii. |
| 86 | 5164 | —— Fortunei. |
| 80 | 4795 | —— grandiflora. |
| 86 | 5169 | —— Nobleana. |
| 85 | 5143 | Spraguea umbellata. |
| 72 | 4211 | Stachytarpheta aristata. |
| 85 | 5021 | Stangeria paradoxa. |
| 81 | 4885 | Stanhopea ecornuta. |
| 71 | 4197 | —— tigrina. |
| 86 | 5158 | Statice Bonduelli. |
| 85 | 5153 | —— Bourgiæi. |
| 86 | 5162 | —— brassicæfolia. |
| 75 | 4448 | Stemonacanthus macrophyllus. |
| 72 | 4263 | Stenocarpus Cunninghami. |
| 85 | 5111 | Stephanophysum Baikiei. |
| 75 | 4438 | Stifftia chrysantha. |
| 83 | 4966 | Stokesia cyanea. |
| 71 | 4167 | Strelitzia augusta. |

| Vol. | No. | |
|---|---|---|
| 81 | 4862 | Streptocarpus Gardeni. |
| 81 | 4850 | —— polyanthus. |
| 74 | 4366 | Strobilanthes lactatus. |
| 76 | 4538 | Stylidium mucronifolium. |
| 76 | 4529 | —— saxifragoides. |
| 81 | 4867 | Stylophorum diphyllum. |
| 74 | 4416 | Swainsona Greyana. |
| 83 | 4975 | Symphoricarpus microphyllus. |
| 79 | 4713 | Syphocampylus Orbignianus. |
| 75 | 4484 | Tabernæmontana longiflora. |
| 85 | 5094 | Tachiadenus carinatus. |
| 71 | 4187 | Tacsonia mollissima. |
| 78 | 4674 | —— sanguinea. |
| 72 | 4251 | Talauma Candollii. |
| 81 | 4833 | Talinum polyandrum. |
| 77 | 4563 | Tamarindus officinalis. |
| 82 | 4896 | Tecoma fulva. |
| 74 | 4383 | Tetrazygia elæagnoides. |
| 72 | 4239 | Theophrastus Jussiæi. |
| 81 | 4868 | Thermopsis barbata. |
| 77 | 4566 | Thibaudia macrantha. |
| 73 | 4344 | —— Pinchinchensis, β. glabra. |
| 73 | 4303 | —— pulcherrima. |
| 75 | 4441 | Thyrsacanthus bracteolatus. |
| 84 | 5062 | —— Indicus. |
| 81 | 4851 | —— Schomburgkianus. |
| 74 | 4378 | —— strictus. |
| 85 | 5124 | Thunbergia coccinea. |
| 83 | 4998 | —— Harrisii. |
| 83 | 4985 | —— laurifolia. |
| 84 | 5082 | —— Natalensis. |
| 73 | 4288 | Tillandsia bulbosa; *var.* picta. |
| 72 | 4249 | Torenia Asiatica. |
| 72 | 4229 | —— edentula. |
| 86 | 5167 | —— hirsuta. |
| 80 | 4780 | Torreya Myristica. |
| 84 | 5079 | Tradescantia discolor; *var.* variegata. |
| 81 | 4849 | —— Martensiana. |
| 86 | 5188 | —— Warszewicziana. |
| 80 | 4820 | Trichodesma Zeylanicum. |
| 81 | 4857 | Trichopilia coccinea. |
| 78 | 4654 | —— suavis. |
| 73 | 4335 | Tritonia aurea. |
| 72 | 4245 | Tropæolum crenatiflorum. |
| 74 | 4385 | —— Smithii. |
| 73 | 4323 | —— speciosum. |
| 73 | 4337 | —— umbellatum. |
| 82 | 4955 | Trycirtis pilosa. |
| 76 | 4505 | Tupa crassicaulis. |
| 82 | 4908 | Tupidanthus calyptratus. |
| 71 | 4137 | Turnera ulmiflora. |
| 83 | 4999 | Tydæa amabilis. |
| 77 | 4617 | Ullucus tuberosus. |
| 83 | 5009 | Uroskinnera spectabilis. |
| 78 | 4688 | Vaccinium erythrinum. |
| 79 | 4732 | —— ovatum. |
| 77 | 4612 | —— Rollisoni. |
| 76 | 4487 | Valoradia plumbaginoides. |
| 73 | 4304 | Vanda cristata. |
| 86 | 5189 | —— gigantea. |
| 86 | 5174 | —— suavis. |
| 75 | 4432 | —— tricolor. |
| 76 | 4512 | Veronica formosa. |
| 73 | 4275 | Victoria regia. |
| 74 | 4415 | Vriesia glaucophylla. |
| 85 | 5108 | —— psittacina; *var.* rubro-bracteata. |
| 74 | 4382 | —— speciosa. |
| 77 | 4584 | Wallichia densiflora. |
| 81 | 4830 | Warrea discolor. |
| 80 | 4766 | —— quadrata. |
| 82 | 4893 | Weigela amabilis. |
| 74 | 4396 | —— rosea. |
| 80 | 4777 | Wellingtonia gigantea. |
| 71 | 4155 | Whitfieldia lateritia. |
| 80 | 4813 | Whitlavia grandiflora. |
| 77 | 4575 | Wigandia Caracasana. |
| 79 | 4722 | Xanthorrhœa Hastile. |
| 83 | 4989 | Xanthosoma sagittifolium. |
| 84 | 5055 | Xiphidium floribundum. |
| 86 | 5201 | Yucca canaliculata. |
| 76 | 4493 | Zauschneria Californica; *var.* latifolia. |
| 75 | 4451 | Zieria macrophylla. |

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# Tab. 5157.

## GRAMMATOPHYLLUM speciosum.

*Showy Grammatophyllum.*

Nat. Ord. Orchideæ.—Gynandria Monandria.

*Gen. Char.* Grammatophyllum, *Bl. Perianthium* explanatum, patens, *sepalis petalis*que subæqualibus. Labellum cum columna articulatum, nanum, trilobum, cucullatum. *Columna* arcuata, erecta, semiteres, basi callosa. *Anthera* subbilocularis. *Pollinia* 2, globosa, basi sulcata, in extremitatibus glandulæ arcuatæ sessilia.—Herbæ *epiphytæ, caulescentes.* Caules *simplices, incrassati.* Folia *linearia, disticha, striata.* Pedunculi *radicales, longissimi, (v. terminales?) multiflori.* Flores *speciosissimi. Lindl.*

Grammatophyllum *speciosum;* scapo multifloro pseudobulbisque longissimis, foliis distichis patenti-recurvis basi dilatatis equitantibus, bracteis herbaceis, sepalis petalisque patentissimis subobovato-oblongis undulatis obtusissimis, labelli lobis obtusis intermedio rubro-lineato, lineis ciliatis.

Grammatophyllum speciosum. *Bl. Bijdr. p.* 377. *Lindl. Gen. et Sp. Orchid. p.* 173 (*in part.*). *Bl. Rumphia, v.* 4. *p.* 47. *t.* 191. *Paxt. Fl. Gard. t.* 69 (*imperfect specimen*).

Great was the surprise of botanists and horticulturists when the first knowledge of this gigantic Orchideous plant was placed before the European public in the 'Rumphia' above quoted, and expectations were not disappointed when the living plant was introduced by the late Messrs. Loddiges, and at length flowered, though imperfectly, in their stoves at Hackney, which happened in 1852, when the figure above quoted was published in Paxton's 'Flower Garden.'

The specimen now before us exceeds in size all that was anticipated by the most sanguine, and this under the skilful management of Mr. Carson, gardener to W. G. Farmer, Esq., of Nonsuch Park, Ewell, in October, 1859. It was taken from a plant of which the old pseudobulbs, or stems, were from nine to ten feet long, and the scape six feet, throwing out its noble flowering scape from the base. The species is a native, Blume tells us, of Java and other islands in the Indian Ocean (Mr. Finlayson detected it in Cochin China), and from its vigorous vegetation,

and the remarkable size of the flowers, it richly merits the title of the "Queen of Orchideous plants."

Descr. *Stems*, or *pseudobulbs*, clustered, erect, five to eight and ten feet high, tereti-compressed, striated below, and a few, large, appressed *scales* there take the place of *leaves*. These latter occupy the rest of the stem, and are distichous, one and a half to two feet long, from a broad, sheathing, equitant base, lorate, acute, coriaceo-membranaceous, striated. *Scape* nearly the size of one's finger, and from four to six feet long, radical, erect, many-flowered, terete, quite glabrous. *Flowers* distant, expanding from the base upwards on the panicle, each with a large, broad, ovato-lanceolate, concave, greenish *bract*, full an inch long. *Ovary* pedicelliform, as long as the flower is broad, thick, fleshy, terete, four to six inches, almost white: *flower-bud* two and a half inches long, independent of the ovary, clavate. Expanded flower nearly six inches across. *Sepals* and petals much spreading and slightly reflexed, undulated, broad-oblong or subobovate, yellow, richly spotted and blotched with deep red-purple. *Lip* small for the size of the flower, three-lobed, an inch and a half long; the lobes obtuse, the side lobes convolute over the column; the disc sulcated, with three plates more elevated in the centre, marked with red streaks, and where the red streaks are, the lines are ciliated: middle lobe entire. *Column* curved a little downwards, semiterete, partially spotted with red.

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Fig. 1. Front view of the lip. 2. Column. 3. Pollen-masses and caudicle: —*magnified.*

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# Tab. 5158.

## STATICE Bonduelli.

*Bonduelle's Statice.*

Nat. Ord. Plumbagineæ.—Pentandria Pentagynia.

*Gen. Char.* (*Vide supra*, Tab. 3776.)

Statice (§ Pteroclados) *Bonduelli;* foliis radicalibus patentibus pubescenti-hirsutis ciliatis spathulatis sinuato-runcinatis, lobis rotundatis terminali subrhombeo longe mucronato, scapis teretibus, ramis angulatis dichotome cymosis, pedunculis obpyramidalibus trialatis, floribus glomeratis (flavis), bracteis interioribus patenti-spinosis, calycis limbo demum campanulato 5-dentato.

Statice Bonduelli. *Lestib. in Annal. des Sc. Nat. ser.* 3. *v.* 16. *p.* 81. *t.* 17.

This pretty yellow-flowered *Statice* was received at the Royal Gardens of Kew from Mr. Thomson of Ipswich, and proves to be a species described and accurately figured by Lestiboudois in the 'Annales des Sciences Naturelles' above quoted, under the name of *S. Bonduelli*. It was detected in North Africa, in the desert of Djebel-Amour, on the banks of the Mzi, between Tagemont and El-Aghouat, by M. Bonduelle, chirurgien aide-major, after whom it is named. It is one of the prettier of a very pretty genus, and is among the few of the yellow-flowered species known to us; is easily cultivated in a greenhouse, and flowers readily during the summer months.

Descr. Perennial. *Leaves* radical, spreading, three to five inches long, spathulate, sinuato-lyrate, hairy and ciliated, terminated by a subulate point, tapering below into a short, winged *petiole: lobes* of the leaves oval or rounded, separated by obtuse sinuses; terminal one larger than the rest, subrhomboid. *Scapes* a foot and more tall, several from the same root, branched upwards in a compoundly dichotomous manner, rounded, hairy; the *branches* triangular, moderately spreading: *bracts* two or three together, linear, half an inch to an inch long, below the branches and at the bases of all the dichotomies, uppermost ones subulate: *ultimate branchlets*, which may be considered the

*peduncle*, broad, obpyramidate, an inch long, ancipitate, trialate, forked at the apex, slightly hairy. *Flowers* inserted at the base of the fork of the peduncle, clustered, surrounded by scariose bracts, of which the interior are furnished with hard, green, spreading spines, some subulate, others semi-hastate, all very sharp. *Calyx* at first cylindrical, at length infundibuliform, yellow, the *limb* campanulate, scariose, five-toothed, and minutely crenulated. *Petals* five; the long *claws* approximated into a tube, longer than the clayx, the *laminæ* spreading, obovate, bifid, pale-yellow. *Stamens* and *style* included.

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Fig. 1. Peduncle, with flowers. 2. Flower, with an inner bractea. 3. Calyx, after the fall of the corolla:—*magnified*.

W.Fitch, del. et lith.

Vincent Brooks, Imp.

# Tab. 5159.

## LLAVEA cordifolia.

*Cordate-leaved Llavea.*

Nat. Ord. Filices.—Cryptogamia Filices.

*Gen. Char. Pinnæ steriles* et *fertiles* in eadem fronde. *Sori* lineares vel oblongi in venas pinnularum transmutarum siliquiformium. *Involucrum* e marginibus incurvis membranaceis dilatatis pinnularum soros tegentes.—Filix *Mexicana*. Caudex *brevis, crassus, squamosus*. Frons *subampla, tripinnata, elegantissima*.

Llavea *cordifolia*.

Llavea cordifolia. *Lagasca, Gen. et Sp. Plant. p.* 33. *Diet. Sc. Nat. v.* 27. *p.* 89. *Hook. Sp. Fil. v.* 2. *p.* 125.

Ceratodactylis osmundioides. *J. Sm. in Hook. Gen. Fil. t.* 36. *Fée, Gen. Fil. p.* 228.

Allosorus Karwinskii. *Kze. in Linnæa, v.* 13. *p.* 138. *Benth. Plant. Hartw. p.* 54. *Kze. in Schkuhr, Fil. Suppl. p.* 7. *t.* 4. *Hook. Ic. Plant. Rar. v.* 4. *t.* 387, 388.

Botryogramme Karwinskii. *Fée, Gen. Fil. p.* 166. *t.* 15 *C.*

One of the most beautiful, and, in a state of cultivation, rarest of Ferns, native of Mexico, with a very peculiar habit; for, with a fructification in many respects resembling that of our well-known *Cryptogramme crispa*, Br., it bears on one and the same frond two kinds of pinnules; the lower portion consists of sterile pinnules only, the upper portion forms a graceful drooping panicle of pod-shaped fertile pinnules. No fern-collection suitable to a warm greenhouse should be without this charming plant. It is a solitary species of the genus.

Descr. *Caudex* or *rhizome* short, thick, mostly concealed underground. *Fronds* tufted, including the stipes, from a foot and a half to two feet long, moderately broad, tripinnate, lower pinnæ sterile, the rest fertile. *Pinnules* of the sterile pinnæ an inch or more long, ovate or cordate-ovate, petiolate, between coriaceous and membranaceous, firm, delicate, bright-green, somewhat acute, serrated with subspinulose teeth, the margins slightly thickened. *Veins* pinnately two to three times forked, ultimate *veinlets* terminating within the margin, and clavate. About the

upper half of the frond forms a panicle of *fertile*, linear, pedicellate, pod-shaped, torulose *pinnules*, which are generally acute; the margins revolute upon the back of the pinnæ, the edges meeting there and forming the *involucres* to the *sori*, which are in lines upon the branches of the veins. *Capsules* numerous, crowded, pedicellate. *Stipes* a span or more long, clothed, and thickly at the base, with subulate, falcate, delicate, whitish, membranaceous *scales*. *Rachis* free from scales, slender, flexuose.

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Fig. 1. Portion of a sterile pinna, showing the venation. 2. Fertile pinna, seen from beneath, showing the margin rolled in and constituting the involucre. 3. Portion of the fertile pinna, with the involucre forced back, showing a sorus: —*magnified.*

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# Tab. 5160.

## BEGONIA FRIGIDA.

*Frigid Begonia.*

Nat. Ord. Begoniaceæ.—Monœcia Polyandria.

*Gen. Char.* (*Vide supra*, Tab. 4172.)

Begonia *frigida*; suffruticosa erecta glabra, foliis longe petiolatis inæqualiter oblique cordatis brevi-acuminatis brevissime sinuato-lobatis serratisque, lobis acutis supra intense viridibus subtus rubro-roseis, stipulis ovatis acuminatis roseis integerrimis, pedunculis axillaribus folia excedentibus bis dichotomis, floribus parvis albis, masculis 4-sepalis quorum 2 ovatis 2 multo minoribus linearibus, staminibus 9 erectis, fœmineis sepalis 4–5 æqualibus lineari-oblongis, capsula membranacea 3-alata, alis 2 majoribus.

Begonia frigida. *Hortul. Alf. De Cand. in Ann. des Sc. Nat. 4th Ser. v.* 11. *p.* 51.

The foliage of this small species of *Begonia*, which we received from Continental gardens under the name here adopted, is more attractive than the flowers, which are unusually small and insignificant, and quite colourless; but our artist, Mr. Fitch, while making the drawing, detected a curious morphological structure, in the fact of one of the flowers having an *inferior* perianth of four very unequal sepals (such as are indicative of a male flower); and above their point of insertion are four stamens (apparently perfect), alternating with four *superior*, free, ovate ovaries, each with a short style, and two, downy, linear stigmas. It is to be regretted that no section was made of these ovaries, which from situation and in form so little resemble the three-celled, inferior fruit of *Begonia*. Indeed, all the flowers had an imperfect appearance, a weak and starving aspect, as if likely to prove abortive; for they are not only small, but the stamens were few in each flower, never more than nine: in the female flower the petals vary from four to five, and the fruit was in one instance four-sided and four-winged.

De Candolle, in his admirable "Mémoire sur la Famille des *Bégoniacées*" in the Annales, l.c., makes brief mention of this species as cultivated in the garden of M. Boissier at Geneva, and refers it to a section, "*Dasysteles*," whose character is "*Flores*

*masc.* disepali, dipetali. *Stamina* libera, *antheris* oblongis, filamento longioribus. *Fl. fem.* lobis tribus, æqualibus. *Styli* tres, liberi, bifidi, a basi usque ad apicem ramorum undique papillosi, ramis erectis linearibus. *Placentæ* integræ. *Capsula* subæqualiter trialata."

Descr. *Stem,* in our plant, not more than a span high, glabrous, as are the *leaves,* which are from three to five inches long, long-petioled, unequally cordate, shortly acuminate, sinuate at the margin with small, sharp angles or lobes, and serrated, slightly pilose; upper side dark coppery-green, beneath deep rose-red, especially upon the veins. *Stipules* half an inch long, membranaceous, pale rose-colour, deciduous, ovato-acuminate. *Peduncles* longer than the leaves, twice dichotomous. *Flowers* white, small. *Male flowers* with four, spreading *sepals,* two oval, and two very small linear ones. *Stamens* nine. *Female flowers* larger. *Sepals* four to five, equal, oblong-oval, spreading. *Capsule* with two large and one small and very narrow wing.

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Fig. 1. Male flower. 2. A stamen. 3. Female flower. 4. Transformed hermaphrodite? flower:—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

# Tab. 5161.

## DIDYMOCARPUS PRIMULÆFOLIA.

*Primrose-leaved Didymocarpus.*

Nat. Ord. Cyrtandraceæ.—Didynamia Angiospermia.

*Gen. Char.* (*Vide supra*, Tab. 4757.)

Didymocarpus *primulæfolia;* acaulis, folis radicalibus patentibus ovalibus obovatisve obtusis serratis in petiolum longum alatum decurrentibus rugosis supra pubescentibus subtus tomentoso-albidis, scapis axillaribus folia æquantibus apice dichotome cymoso-paucifloris, calycis villosi lobis lineari-oblongis erectis obtusis, corollæ tubo curvato subtus præcipue insigniter inflato limbi lobis 5 patentibus æqualibus.

Didymocarpus primulæfolia. *Gardn. Contrib. to Fl. of Ceylon, p.* 18.

Raised from seeds which were sent from Ceylon by our excellent friend Mr. Thwaites, to the Royal Gardens of Kew, where it flowered in November, 1859. It was well named by the lamented Gardner, "*primulæfolia,*" for not only the leaves, but the front view of the flower calls to mind some or other of the Primrose tribe. The colour of the leaves however, from the copious down, is peculiarly hoary, almost white. It is an inhabitant of shady rocks, in forests, on the Hantane range, near Kandy. A near ally of this is *D. Humboldtiana*, of Gardner, figured at our Tab. 4757. That has much broader leaves and shorter petioles.

Descr. Herbaceous, stemless. Whole *plant* covered with hoary down or short hairs, thicker (quite tomentose) on the under side of the leaves. *Leaves* (the blade) three to four inches long, all radical, elliptical or subobovate, patent, rugose with strongly reticulated veins, crenato-serrate, tapering at the base into a long, winged *petiole*, longer than the blade. *Scapes* about as long as the leaves, erect or nearly so, dichotomously divided at the apex into a few-flowered *cyme* of moderately sized, pale-lilac-coloured *flowers*, soon passing into white. *Calyx* monophyllous, cut into five, deep, nearly erect, linear-oblong,

obtuse, very hairy *lobes*. *Corolla* short, with the *tube* at first curved downwards, then upwards, singularly broad, and inflated or ventricose beneath; *limb* of five, spreading, nearly equal, rounded segments, crenated at the margin. *Stamens* two, perfect, quite included, inserted near the base of the tube; *filaments* short; *anthers* yellow, reniform, applied to each other face to face, and slightly conjoined: there are besides in our plant three filiform *abortive stamens*. *Ovary* oblong, pubescent and glandulose. *Style* as long as the tube of the corolla. *Stigma* subcapitate, depressed.

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Fig. 1. Flower. 2. Calyx and pistil. 3. Corolla, laid open, showing the stamens. 4. Pistil:—*magnified*.

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# Tab. 5162.

## STATICE brassicæfolia.

*Cabbage-leaved Statice.*

Nat. Ord. Plumbagineæ.—Pentandria Pentagynia.

*Gen. Char.* (*Vide supra*, Tab. 3776.)

Statice (Pteroclados) *brassicæfolia*; basi suffrutescente, foliis parce et brevissime velutinis margine ciliatulis petiolatis lyratis lobo terminali maximo ovato-rotundo sæpe irregulariter lobato obtusissimo cuspidato basi subcordato lateralibus 2–4-auriculæformibus parvis rotundatis alternis basi sæpe confluentibus, scapo angulato superne paniculato-corymboso, ramis bialatis alis latissimis grosse undulato-lobatis subdichotomis in auriculas amplas abeuntibus, spiculis bifloris 2–3 ad ramulorum apicem fasciculatis, ramuli floralis alis tribus a basi sursum dilatatis glabris in auriculas breves falcatas acutiusculas cujus altera sæpe obsolete abeuntibus, bracteis duabus inferioribus rufo-membranaceis ovatis acutis puberulis, interiore triplo majore rubello-coriacea dorso coriacea elevatim plurinervi glabra apice angustissime albo-membranacea ciliatula, calycis tubo glabro limbo obtusissime 5-denticulato-sinuato. *Boiss.*

Statice brassicæfolia. *Webb in Bourg. Plant. Canar. Exsicc. n.* 136. *Phyt. Canar. v.* 3. *p.* 181. *t.* 195. *Boiss. in De Cand. Prodr. v.* 12. *p.* 637.

A very pretty new *Statice*, recently detected by M. Bourgeau in the Canaries, but only in the island of Gomora, and at a spot called El Risco de las Sulas, Lugar de Agulo, flowering in great perfection early in April: with us, even in a cool greenhouse, blossoming early in August. It evidently belongs to the same group of the extensive genus *Statice* with the well-known *S. arborea* of Willdenow, and of Bot. Mag. t. 3776; but very different, and of a more humble character in point of size. In this group of the genus, Teneriffe and the adjacent islands are extremely rich.

Descr. The *root* or *rhizome* is stout and woody, and sometimes rises above the surface of the ground, but never to the extent of becoming a subarborescent stem, as is the case in *S. arborea*. *Leaves* all radical, roughly hairy, with small setæ, varying much in size, from six inches to a span and more long,

lyrato-pinnatifid, or even below subpinnate. The terminal *lobe* very large, broadly obovate, somewhat waved, tipped with a long subulate *bristle;* below that lobe the petiole is winged and sinuato-lobate, the lobes small, subtriangular, and the lowest ones wide apart and distinct. *Scape* a foot or a foot and a half high, dichotomously panicled above, very singularly and broadly winged, as seen in the figure, and as is, together with the inflorescence, sufficiently amply described in the above specific character.

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Fig. 1. Flowers and outer bract. 2. Inner bract. 3. Calyx, separate from the rest of the flower. 4. Portion of a leaf, to show the setæ:—all more or less *magnified.*

W. Fitch del. et lith.

Vincent Brooks, Imp.

# Tab. 5163.

## FOURCROYA FLAVO-VIRIDIS.

*Yellow-green Fourcroya.*

Nat. Ord. Amaryllidaceæ.—Hexandria Monogynia.

*Gen. Char. Perigonium* corollinum, superum, deciduum, hexaphyllo-partitum; *foliolis* æqualibus, patentiusculis. *Stamina* 6, epigyna; *filamenta* basi cuneato-dilatata, æstivatione erecta, sub anthesi inclusa; *antheræ* ovatæ, medio dorso affinæ, erectæ. *Ovarium* inferum, triloculare. *Ovula* plurima, in loculorum angulo centrali biseriata, horizontalia. *Stylus* triqueter, basi strumoso-incrassatus, subexsertus, cavus, apice pervius. *Stigma* obtusum, fimbriatum. *Capsula* coriacea, trilocularis, loculicido-trivalvis. *Semina* plurima, plano-compressa.—Herbæ *in America calidiore cis æquatorem indigenæ, longævæ, semel florentes;* caudice *interdum giganteo, apice folioso;* scapo *terminali, paniculatim ramoso, multifloro. Endl.*

Fourcroya *flavo-viridis;* acaulis, foliis pallide flavo-viridibus subsesquipedalibus bipedalibusve lanceolatis carnosis acuminatis subtortuosis spinosis, spinulis mediocribus falcatis, scapo subbiorgyali apice laxe racemoso-paniculato, floribus subaggregatis nutantibus 3 uncias longis, perianthio infundibuliformi-hypocrateriformi, tubo viridi, limbo flavescente 4 uncias lato, staminibus limbi laciniis lanceolatis 3 interioribus latioribus brevioribus, filamentis infra medium valde dilatatis, stylo staminibus brevioribus basi erecto-trilobis.

The brief account we have of *Fourcroya tuberosa* might be considered sufficiently to correspond with our present plant to justify us in attaching the name to it, were it not for the absence of a swollen base or rhizome from which the roots spring. We have plants that have not yet flowered, which in that particular better correspond with *F. tuberosa*, and I am bound to consider a new species, which Mr. Repper sent, twelve or fourteen years ago, along with *Cereus senilis* and other Mexican succulents, from Real del Monte. It may be considered a *Fourcroya gigantea* in miniature; the flowers however being quite as large and of the same structure as *F. gigantea*, already given in Bot. Mag., Tab. 2250.

Descr. The *root* is coarsely fibrous, without stem or caudex. *Leaves* all radical, more or less spreading, and some-

what tortuose, about two feet long, lanceolate, pungently acuminate, pale-green, very smooth and even, spinulose at the margin: the *spines* or *teeth* falcate, sharp; superior ones pointing towards the apex, inferior ones the reverse. *Scape* twelve to fourteen feet high, naked below but bracteated above, forming a long lax racemose *panicle; pedicels* aggregated on short bracteated *peduncles*, drooping; bracteas ovato-lanceolate, long-acuminate. *Perianth* pale-yellowish-green; the *tube* incorporated with the obtusely triangular *ovary*. The spread of the limb is nearly four inches; three outer *sepals* narrower, three inner subcorolloid and a little waved. *Filaments*, as in the genus, singularly dilated below the middle, and the style has at its base three large erect lobes, characteristic of the genus *Fourcroya*.

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Fig. 1. Apex of a leaf,—*nat. size*. 2. Stamens. 3. Pistil. 4. Transverse section of ovary:—*magnified*.

# Tab. 5164.

## SPIRÆA Fortunei.

*Fortune's Spiræa.*

Nat. Ord. Rosaceæ.—Icosandria Di-Pentagynia.

*Gen. Char.* (*Vide supra*, Tab. 4795.)

Spiræa *Fortunei;* frutex erectus, ramulis glabratis, foliis lanceolatis longe acuminatis grosse subduplicato-serratis supra glabris subtus glaucis glaberrimis v. pilosulis, cymis laxis, ramis patentibus calycibusque pubescentibus, calycis lobis patentibus tubo intus tomentosis disco glandulis suberectis ornato, ovariis glaberrimis.

Spiræa Fortunei. *Planchon, Flore des Serres, v. 9. p. 871.*

Spiræa callosa. *Lindl. et Paxt. Fl. Gard. v. 2. p. 113, cum ic. xylogr.*

This handsome shrub is evidently the *S. callosa* of Lindley, a native of North China and Japan, but whether of Thunberg or not appears doubtful, for the latter author describes the leaves as eglandular, whereas this and all its allies have the serratures tipped with a gland. Planchon, who points out this difference, adds that the *S. callosa* has much smaller, somewhat pilose leaves, and larger callosities (axillary buds) at the base of the petiole. Notwithstanding these differences we suspect this will prove to be Thunberg's plant, for the leaves vary extremely in size, as do those of its allies. There are sometimes a few hairs on the leaves beneath. Our specimens have the large callosities alluded to, and we cannot but suspect some error in regard to the eglandular serratures. We have a cultivated specimen, introduced from Japan to this country by T. Lobb, in which the inflorescence and calyx are nearly glabrous.

The *S. Fortunei* flowered this year in the Royal Gardens, Kew; but we have figured in preference the specimens sent by Mr. Noble, of Bagshot, for reasons which will be stated under *S. Nobleana* (hereafter to be figured). As a species it is very nearly related to some forms of the Himalayan *S. bella* itself, a a most variable plant, but in which the glands of the disc are always much larger.

Descr. A straggling *shrub*, three to five feet high, with reddish glabrous *branches* and puberulous *branchlets*. *Leaves*

three to six inches long, rather membranous, elliptic-lanceolate or oblong-lanceolate, with a long acumen, irregularly acutely serrate; the *serratures* tipped with a gland; deep green, glabrous above, glaucous and glabrous or obscurely pilose beneath. *Inflorescence* a lax *cyme*, with slender patent branches. *Calyx* tomentose with spreading lobes and hairy tube inside. *Disc* with a row of suberect small *glands*. *Stamens* not very long. *Ovaries* quite glabrous.—*J. D. H.*

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Fig. 1. Flower. 2. Ditto, with petals and stamens removed. 3. Portion of calyx, gland, and stamens:—*all magnified.*

Vincent Brooks, Imp

# Tab. 5165.

## CEANOTHUS velutinus.

*Velvety Ceanothus.*

Nat. Ord. Rhamneæ.—Pentandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4660.)

Ceanothus *velutinus*; frutex, ramis erectis, foliis coriaceis orbiculari-ellipticis cordatisve obtusis glanduloso-crenatis supra glabris intense viridibus vernicosis subtus canescenti-tomentosis trinerviis, paniculis pedunculatis axillaribus, floribus densis albis.

Ceanothus velutinus. *Douglas, in Hook. Fl. Bor. Am. p.* 125. *t.* 45. *Torrey and Gray, Fl. of N. Am. v.* 1. *p.* 265.

This is a plant of which the figure makes very little show upon white paper, for there is nothing gay and no variety of colour; but in a garden it proves to be a very handsome evergreen ornamental shrub, derived from the Oregon Territory, with leaves whose upper surface is very dark green, rendered glossy by apparently an aromatic resin, which the plant exudes in hot weather, the under side velvety with whitish down, or sometimes slightly ferruginous. It was first detected by the lamented Douglas, and has been lately reared from seed by Messrs. Veitch and Sons, Exeter and Chelsea Nurseries, with whom it flowered in the open air in the early winter months. It may be expected to be quite hardy, for it is found among the Rocky Mountains at considerable elevation above the sea.

Descr. *Shrub*, eight to ten feet high on its native hills, with nearly glabrous, terete *branches*, and rather long-petioled *leaves* of a singularly dark and vernicose green above, pale and canescent or sometimes subferruginous with velvety down, beneath; the largest of them are nearly three inches long; their form is elliptical-rotundate or elliptical-cordate, the margin glanduloso-crenulate; there are three principal longitudinal nerves, which are prominent beneath. *Peduncles* axillary, bearing erect, thyrsoid *panicles* of dense white *flowers*, overtopping the leaves, with

a pair of *bracteas* where the branches commence. *Calyx* small, five-lobed. *Petals* long-clawed, cucullate. *Stamens* with incurved filaments; *anthers* subglobose. *Disc* very conspicuous. *Fruit* a *capsule*, about the size of a small pea.

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Fig. 1. Flower. 2. Pistil and hypogynous disc:—*magnified.*

W.Fitch, del et lith.

Vincent Brooks Imp.

# Tab. 5166.

## HETEROCENTRON Mexicanum.

*Mexican Heterocentron.*

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Nat. Ord. Melastomaceæ.—Octandria Monogynia.

*Gen. Char.* Heterocentron, *Hook. et Arn.* *Flos* tetramerus. *Calycis dentes* triangulari-acuti, tubum campanulatum subæquantes. *Petala* obovata. *Stamina* 8, alternatim inæqualia, haud omnino conformia; antheris lineari-oblongis, 1-porosis, loculis undulatis; 4 majorum *connectivo* infra loculos longe producto et ultra filamenti insertionem in appendices duas rectas calcariformes conniventes antice porrecto; 4 minorum *connectivum* brevissime ante vix productum sed infra loculas bituberculatum. *Ovarium* costis 8 parum conspicuis basi adhærens, superne liberum, apice setis coronatum, 4-loculare. *Stylus* filiformis, *stigmate* punctiformi. *Capsula* 4-valvis. *Semina* cochleata.—Suffrutices fruticesve *Mexicani, montícolæ, erecti, ramosi, inter* Melastomæas foliis *multiplinerviis et fere omnino penninerviis memorabiles;* floribus *paniculatis, albis ante roseis. Naudin.*

Heterocentron *Mexicanum;* suffruticosum pilis scabriusculum, caule ramisque tetragonis, foliis ellipticis obtusis penninerviis obtusis integerrimis in petiolum longiusculum decurrentibus, panicula foliosa ampla terminali multiflora, calycis tubo globoso echinato-tuberculato.

Heterocentron Mexicanum. *Hook. et Arn. Bot. of Beech. Voy. p.* 290. *Naud. Melast. Tent. p.* 248.

Melastoma subtriplinervium. *Link. Ic. Pl. Rar., p.* 47. *t.* 24 *(flore albo).*

Heteronoma subtriplinervium. *Hort.*

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A very beautiful Mexican Melastomaceous plant, inhabiting mountains about Xalape, at altitudes of six to eight thousand feet, and although hitherto kept in the stove with us, there is no doubt of its succeeding well in a cool greenhouse. It has been circulated, judging by the appellation which we have received with it, as "*Heteronoma subtriplinervium*,"—the genus of which is quite different; and the specific name implies a character, common to most of the Order *Melastomaceæ*, but quite at variance with the species and the genus to which our plant belongs. Our plants have flowered in the autumnal and early winter months, and prove exceedingly ornamental at that unfavourable portion of the year. We owe the possession of our

living plants to Messrs. Hugh Low and Son, of the Clapton Nursery.

Descr. Suffruticose. A foot and rather more high, with four-anguled *stem* and *branches*, and opposite *leaves*, slightly scabrous above, with short setæ, elliptical in form, obtuse, entire, penninerved, tapering at the base into a moderately long *petiole*. *Panicle* very compound, terminal, spreading, formed of the numerous flowering branches, each of which forms a *corymb* of many flowers, of a bright rose-colour, nearly an inch in diameter. *Tube* of the *calyx* globose, tuberculato-muricate; *limb* of five, spreading, ovate, large, at length reflexed segments. *Petals* four, spreading, rhombeo-orbicular, a little concave, shortly unguiculate. *Stamens* of two kinds: four smaller ones, with a very minute connectivum and an erect *anther*; four longer ones, with a long *connectivum*, as long as the anther, bifid at the base, attached transversely to the apex of the filament, and remarkably deflexed. *Ovary* quite concealed within the muricated calyx-tube, four-celled.

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Fig. 1. Calyx, with the capsule bursting at the apex. 2. Fruit (and calyx-tube), cut through transversely. 3. One of the four lesser stamens. 4. One of the four larger ones:—all more or less *magnified*.

W.Fitch.del. et lith.

Vincent Brooks, Imp.

# Tab. 5167.

## TORENIA hirsuta.

*Hairy Torenia.*

Nat. Ord. Scrophulariaceæ.—Didynamia Angiospermia.

*Gen. Char. Calyx* tubulosus, plicatus v. alatus, apice oblique 5-dentatus v. bilabiatus. *Corolla* ringens, labio superiore emarginato vel bifido, inferiore trifido majore. *Stamina* postica fertilia, antica arcuata antherifera, basi appendice dentiformi vel filiformi aucta. *Antheræ* per paria arcte approximatæ vel cohærentes. *Stylus* apice bilamellatus. *Capsula* oblonga, calycem non excedens.—Herbæ *gerontogeæ, tropicæ, vel parce ex orbe veteri allatæ etiam America tropica vigentes.* Folia *opposita*. Racemi *breves, pauciflori, fasciculæformes, vel rarius elongati, terminales vel ramo excurrente falso axillares, vel in dichotomia ramorum siti. Benth. in De Cand.*

Torenia *hirsuta*; diffusa, foliis petiolatis ovatis serrato-crenatis basi subcordatis, calycibus elongatis 5-costatis exalatis basi obtusis, corolla calyce vix duplo longiore, filamentorum anticorum appendice subulata. *Benth.*

Torenia hirsuta. *Lamb. Illust. t.* 523. *f.* 2. *Benth. in De Cand. Prodr. v.* 10. *p.* 410.

Torenia cordifolia. *Benth. in Wall. Cat. n.* 3954 (*non Roxb.*).

From the stove of the Royal Gardens of Kew, where it was received from Messrs. Hugh Low and Son, of Clapton, who appear to be the first who have introduced the plant to our stoves. It certainly has many points in common with *T. Asiatica*, figured at our Tab. 4249, and is perhaps more beautiful than that favourite plant. The flowers are equally large, as well as more highly coloured, and more inclined to a reddish than a blue purple. The plant is not so straggling, but more compact, the leaves shorter, less acuminate, less sharply serrated; and they, and the whole plant (and even the corollas), are hoary with fine, short, canescent hairs. The calyx is considerably different in shape, both in the state of bud, and after its full expansion, much less acuminated at the apex; more obtuse at the base, and the upper lip is always deeply bipartite (as accurately represented in the otherwise indifferent figure of Lamarck), which seems never to be the case with *T. Asiatica*. It flowers at dif-

ferent seasons, and requires the protection of a stove. Our drawing was made in December, 1859.

Descr. *Stem* herbaceous, four-sided, and, as well as the foliage, hoary with copious short hairs. *Leaves* opposite, short-petiolate, cordato-ovate, crenato-serrate, shortly acuminate. *Peduncles* solitary, axillary in the upper leaves, longer than they, single-flowered. *Flowers* inclined, large. *Calyx* oblong; angular, scarcely winged, downy, blunt at the base, two-lipped, upper lip deeply bifid, lower lip trifid, segments acuminate. *Corolla* more than twice as long as the calyx, tube gibbous above. Corolla rich purple; upper lip entire, lower lip three-lobed, lateral lobes very deep purple, middle lobe white, with a purple margin. *Stamens* and *pistil* included: their structure the same as that in *T. Asiatica*.

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Fig. 1. Portion of the leaf. 2. Corolla, laid open. 3. Calyx and pistil. 4. Pistil, with its hypogynous cup or disc:—*magnified*.

W. Fitch, del et lith.

Vincent Brooks, Imp.

# Tab. 5168.

## NARTHEX Asafœtida.

*Asafœtida.*

Nat. Ord. Umbelliferæ.—Pentandria Digynia.

*Gen. Char. Calycis margo* obsoletus. *Petala* oblonga, apice una inflexa. *Stylopodium* urceolatum. *Styli* recurvi. *Fructus* a dorso plano-compressus, margine dilatato; *mericarpia* jugis primariis 5, 3 intermediis filiformibus, 2 lateralibus obsoletioribus margini contiguis immersis. *Vittæ* in valleculis dorsalibus; plerumque solitariæ (lateralibus nunc $1\frac{1}{2}$–$2\frac{1}{2}$-vittatis); commissuralibus 0–6, variis. *Semen* complanatum.—Herba *gigantea* Tibetica; radice *crassa, fibris intertextis rigidis coronata;* caule *robusto, ramoso;* foliis *bipinnatis, laciniis lineari-oblongis, obtusis, integerrimis v. serratis, glabris v. pubescentibus,* petiolo *lato, amplo, vaginante, inflato;* umbellis *compositis;* involucris 0; floribus *flavis, interdum unisexualibus v. sterilibus.*

Narthex *Asafœtida.*

Narthex Asafœtida. *Falconer in Linn. Soc. Trans. v.* 20. *p.* 285.

A plant as rare as it is interesting, for the opportunity of figuring which we are indebted to Professor Balfour, who published the following record of its introduction and flowering in the Edinburgh Garden in the 'Gardeners' Chronicle' for June 1859, p. 487. "This season another of the Asafœtida plants, *Narthex Asafœtida*, raised from seeds sent home by Sir John M'Neill and Dr. Falconer, has produced a flowering stem. The specimen was planted out in front of the houses in the garden about five years ago. It began to show symptoms of developing a flowering stem at the end of February and beginning of March; none of the large radical leaves were produced, but the flowering axis shot up at once from the under-ground stem. At the time when this took place none of the other specimens in the open ground of the garden had shown any leaves. Warned by the untimely fate of the plant last year, which was suddenly destroyed by an intense frost on 13th April, when the thermometer fell to 22°, Mr. M'Nab secured the present specimen from injury by getting a glazed wooden frame about eight feet high erected around it, and connecting it with the adjoining stove so that a moderate degree of heat might be supplied in the event of severe frost

occurring during the night. In this way the plant has been completely protected from the effects both of very high wind and of cold. It has progressed vigorously and rapidly. On the 13th April its height was seven feet eight inches. This height has been reached in about forty-five days. The last thirty inches of growth have been accomplished in eleven days, *i. e.* from 2nd to the 13th of April. The first anther expanded at eleven A.M. on the 7th of April, and in the course of that day the anthers appeared by hundreds: the plant has flowered well, and promises to bear fruit. At present there are forty-five compound umbels on it, some of which are five or six inches across."

The plant here figured for the first time from perfect specimens is one of the several now known to yield the well known fetid gum-resin asafœtida, though whether it be, as Falconer supposed, *A. Disgunensis*, indicated by Kæmpfer and figured in his 'Amœnitates Exoticæ' (p. 535), is still a disputed point. That it yields excellent asafœtida in the form of a copious milky juice, which is collected and exported to Europe in great abundance, is clearly made out by Dr. Falconer, who discovered it in western Tibet, north of Kashmire, in 1838, and sent seeds to the Royal Botanic Gardens of Edinburgh in 1839, where the plant flowered and ripened its fruit last year.

It would be impossible to discuss here the vexed question of the history of the origin of all the Asafœtidas, nor would the discussion be very profitable; it is certain that Kæmpfer had two plants (species or varieties) in view, from different countries,—that his descriptions and drawings and specimens (in the British Museum) do not tally,—and that though Dr. Falconer considers his plant one of Kæmpfer's, other botanists do not. Just now too we have received at the Museum of the Royal Gardens superb specimens of a very different gigantic Umbellifer from the Imperial Academy of St. Petersburg, as a *true Asafœtida* of commerce; it was collected by M. Borsczhow in sandy places on the steppes east of the Caspian, where it attains a height of nine feet! and yields abundance of excellent asafœtida. Professor Bunge has called this plant *Scorodosma fœtidum* (characterized generically by the absence of vittæ), and M. Borsczhow, who recently visited this country, informs us he believes it to be the Khorassan plant figured by Kæmpfer, and of which fruits are in the British Museum. The same gentleman kindly informs us further, that he considers the Tibetan plant to be quite distinct (in which we entirely concur), and that the *Scorodosma* is probably also found in eastern Persia.

Referring to our herbarium, we find various plants (varieties, genera, or species), all yielding the asafœtida of commerce or an entirely similar gum-resin:—(1) Dr. Falconer's plant (leaves,

fruit, and root), from Tibet. (2) A very similar one, collected by Drs. Falconer and Thomson in the southern damp valleys of the same mountain (and elsewhere in Kashmire) in whose northern dry valleys Falconer obtains his *Narthex*, also by Dr. Thomson in Piti (Tibet). (3) A flowering specimen, gathered in Turkistan by Dr. Lord (19th April, 1838), and given to Dr. Falconer: it is much injured by insects. (4) Leaves and roots of a quite similar plant sent by Dr. Stocks, from Doobund, in Beloochistan, as, certainly, the Asafœtida of commerce. (5) Another similar plant from the banks of the Zenderad, in the Baktiyari mountains of Persia, collected by the late W. Loftus (June 7, 1852), of which excellent specimens are in the British Museum. (6) The *Scorodosma* of Bunge, of which we know the fruit, root, and stems, but have not seen leaves. Lastly, we have imperfect fragments of Oriental Umbellifers from Aucher-Eloi and others, which may belong to some of the above.

It remains to observe that the characters upon which *Narthex* and *Scorodosma* have been separated from *Ferula* seem to us unworthy of generic importance. The number and length of the vittæ vary extremely in the Edinburgh and native specimens. The habit of the species is entirely the same with that of various Ferulas, which themselves vary greatly in habit and vittæ. We may add that the individual species or varieties further differ in the smoothness or pubescence of the leaflets, their entire or serrated margins, in the shape of the mericarps, and in the position of the smaller umbels of male flowers, which are often extra-alary. Plants growing in arid climates (and, like the *Narthex*, on the borders of moist ones) are eminently variable, both as to sensible properties, form of organs, and habit; and we suspect that the discrepancies between the specimens and descriptions of several of the above enumerated plants (excluding the *Scorodosma*) may be attributed to climate.

We have to express our obligations to various gentlemen for the trouble they have taken to obtain specimens and information on this interesting subject, to Drs. Falconer, Balfour, Christison, to M. Borsczhow and Mr. Hanbury, and especially to Mr. Bennett, of the British Museum, who has further aided us in examining the specimens; and he considers the characters of the vittæ of little value when unaccompanied with others of importance.

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Fig. 1. Flower. 2. Ovary. 3. Transverse section of mericarp. 4. Ripe fruit (*all from the Edinburgh Garden plant*). 5. Fruit of native specimen, collected by Falconer. 6. Transverse section of ditto. 7. Fruit of *Scorodosma fœtidum*:—all but 4, 5, and 7 *magnified*.

W Fitch del et lith

Vincent Brooks, Imp.

# Tab. 5169.

## SPIRÆA Nobleana.

*Mr. Noble's Spiræa.*

Nat. Ord. Rosaceæ.—Icosandria Di-Pentagynia.

*Gen. Char.* (*Vide supra*, Tab. 4795.)

Spiræa *Nobleana*; frutex erectus, ramis cano-puberulis, foliis lineari-oblongis oblongo-lanceolatisve acutis grosse subduplicato-serratis supra glabris subtus dense pubescentibus, paniculis brevibus densifloris pedicellis calycibusque tomentosis, calycis lobis patentibus tubo intus glabro, disco glandulis instructo, ovariis glabris.

In the summer of 1859, Mr. Chas. Noble sent us numerous fine specimens of three Spiræas, *S. callosa*, *S. Douglasii*, and the present, with the following remarks:—"The third must, I believe, be a hybrid between the two above named: the history of it is this. I had *callosa* and *Douglasii* growing side by side. I raised young plants from the seed of *S Douglasii*, supposing them to be true; but their growth and flower appear to be exactly intermediate between the two; and what appears remarkable is, that the whole of the bed, containing several hundreds, are quite the same." A careful examination of the specimens seemed in many respects to confirm Mr. Noble's view, the supposed hybrid having the leaves precisely intermediate, approaching *Douglasii* in shape and pubescence, but *callosa* in toothing and green under-surface; the inflorescence is intermediate between the long thyrsus of *Douglasii* and broad cyme of *callosa*. The calyx has the patent lobes of *callosa* and glabrous tube inside of *Douglasii*; and the flowers have the evident ring of glands of *callosa*, but the colour and stamens of *Douglasii*. On referring to our herbarium, however, we find the wild specimens from William Lobb of the supposed hybrid from the mountains of California, where *S. callosa* (a native of Japan) has never been found; and what is more remarkable, the specimens bear the same number (391) as Lobb has attached to *S. Douglasii*. The question hence arises, may not the seeds of both have arrived in one packet, and been sown, and their differences not

having been observed, those of the present alone may have been collected and raised? The plant is, on the whole, very much nearer to *Douglasii* than to *callosa*, showing no approach to the lanceolate leaf of the latter; and the inflorescence, though so much shorter than in *Douglasii*, is by no means cymose. Such are the facts of this curious case, which we must leave to the future to decide. We have figured these species from Mr. Noble's specimens, and must own that were it not for the patent calyx-lobes and evident series of glands, we should have regarded this as a variety of *S. Douglasii*.

Descr. An erect *shrub*, intermediate in habit between *S. callosa* and *Douglasii*. *Branches* and branchlets reddish, puberulous. *Leaves* two to five inches long, linear-oblong, acute, coarsely duplicato-serrate from below the middle upwards, serratures tipped with minute *glands;* upper surface deep-green, glabrous, under paler, densely pubescent. *Inflorescence* a broad, short, subconical *thyrsus* of densely-crowded *flowers*, very similar to, but rather deeper coloured than *S. Douglasii*. *Calyx-lobes* patent, the tube glabrous within. *Disc* with a series of small, suberect glands. *Ovaries* glabrous. *J. D. H.*

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Fig. 1. Flower. 2. The same, with petals and stamens removed:—*both magnified.*

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# Tab. 5170.

## ANGRÆCUM EBURNEUM; var. *virens*.

*Ivory Angræcum; greenish-flowered variety.*

Nat. Ord. Orchideæ.—Gynandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4761.)

Angræcum *eburneum*; caule simplici elato, foliis coriaceis lucidis apice obliquis 7–10-striatis, spicis multifloris elongatis secundis, labello orbiculari-cordato cuspidato basi jugo elevato cristatis, calcare sepalo supremo parallelo et dimidio longiore, ovario scabro.

Angræcum eburneum. *Thouars, Orchid. Afric. t.* 65. *Hook. Bot. Mag. t.* 4761 (*which see for synonyms and description*).

Var. β. *virens;* floribus minoribus, labello cordiformi medio virescente. Angræcum virens. *Lindl. Bot. Reg.* 1847; *under t.* 19, *in Paxt. Flower Garden, v.* 1. *p.* 25. *f.* 9, 10. (Tab. Nostr. 5170.)

This plant having blossomed in the Royal Gardens at the same time as, and in the same stove with, *Angræcum eburneum* (see Tab. 4761), the differences to be seen are so trifling that we dare not venture to give it as a species. Indeed, Dr. Lindley, on first describing it from very imperfect materials, observes that "it is very like a small state of *Angræcum eburneum*;" and "it is published chiefly to draw attention to its locality, which is said to be Serampore; but whether it is really a native of the continent of India, or a plant received from the old Botanical Garden of that settlement, as is more probable, I do not know." Again, in describing and figuring the *A. virens* in Paxton's 'Flower Garden,' along with a very accurate figure from Bourbon specimens, the chief characteristic mark is made to depend upon colour; "the sepals and petals and spur are greenish, and the lip itself, though white, is nevertheless conspicuously tinged with green in the middle;" not however to such a degree as in the plant which flowered with Mr. Loddiges, and which gave rise to the name which this plant bears. We may then safely consider it a variety and a less beautiful form of the noble *Angræcum eburneum*, and further, that the statement of the plant being a native of Serampore originated in error.

Fig. 1. Column and anther,—*slightly magnified.*

W.Hutch.del. et lith.

Vincent Brooks, Imp

# Tab. 5171.

## CHAMÆBATIA foliolosa.

*Leafleted Chamæbatia.*

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Nat. Ord. Rosaceæ.—Icosandria Monogynia.

*Gen. Char. Calycis tubus* turbinato-campanulatus; *limbus* persistens, *laciniis* 5 æstivatione valvatis. *Petala* 5. *Stamina* numerosa, pluriseriata, ad faucem calycis inserta. *Ovarium* in fundo calycis unicum, erectum, liberum: *stylus* ex apice ovarii erectus, latere interiore fere ad medium fissus et stigmatifer. *Ovula* 2, erecta, anatropa. *Achenium* siccum, calyce inclusum. *Semen* unicum, erectum.—Frutex *Californicus, ramosissimus;* foliis *tripinnatisectis*, segmentis *ultimis confertis numerosissimis;* stipulis *lineari-lanceolatis;* floribus *cymosis, albis. Torrey.*

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Chamæbatia *foliolosa.*

Chamæbatia foliolosa. *Benth. Plant. Hartw. p.* 308. *Torrey, Plantæ Fremontianæ, p.* 11. *t.* 6.

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This is certainly one of the most remarkable of Rosaceous plants, in its flowers resembling a shrubby *Potentilla*, but with leaves more resembling the very compound foliage of some species of Milfoil (*Achillea*). It is a native of the "higher parts of the Sierra Nevada, as well as the sides of the foot-hills (in great abundance), and the mountains of the Sacramento, in California, and was first discovered by Colonel Fremont, in 1844," afterwards gathered by Mr. Hartweg and Mr. Shelton; and Messrs. Veitch and Sons, of the Exeter and Chelsea Nurseries, have the credit of importing living plants, sent by their collector from California, which there is every reason to believe will prove hardy in our gardens and shrubberies, and assuredly highly ornamental. In our figure the flowers alone are taken from dried specimens. The genus is allied to *Cercocarpus* and *Purshia.*

Descr. "A *shrub*, growing from two to three feet high, of an agreeable balsamic odour, with very smooth bark, and numerous upright branches." *Leaves* broad-oval or elliptic, nearly sessile, very closely and compactly tripinnatifid, the margin ciliated; *primary lobes* approximate, linear, oblong, obtuse, patent;

ultimate *segments* oval, acute, tipped with a glandular mucro, sometimes having a similar small lobe at the inferior base. *Stipules* minute, subulate, adnate to the short petiole. *Peduncles* terminal, on the branches cymose, glanduloso-hirsute, few-flowered, bracteated; the *bracteæ* toothed or pinnatifid. *Flowers* white, half an inch wide. *Calyx* quinquefid, externally glanduloso-pilose; *tube* turbinate; *segments* reflexed. *Petals* obcordate, shortly unguiculate. *Stamens* numerous. *Ovary* single, free, hairy, with one erect ovule; *style* erect, glabrous. *Stigma* with a cleft on one side.

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Fig. 1. Portion of a leaf. 2. Flower. 3. Calyx laid open, showing the stamens and pistil. 4. Stamen. 5. Pistil. 6. Vertical section of ovary:—*all magnified.* 7. Flower-bud,—*not. size.*

1.
2.

# Tab. 5172.

## SCHOMBURGKIA Lyonsi.

*Mr. Lyons' Schomburgkia.*

Nat. Ord. Orchideæ.—Gynandria Monandria.

*Gen. Char. Sepala* et *petala* conformia, patentia, omnino libera, basi æqualia. *Labellum* difforme, membranaceum, trilobum, semicucullatum, basi cum margine columnæ connatum, supra basin tumidum (intrusum): venis lamellatis. *Columna* alata. *Pollinia* 8.—Rhizoma *repens, nudum, annulatum, pseudobulbigerum.* Pseudobulbi *magni, elongati, bi-triphylli.* Folia *coriacea.* Scapi *terminales, vaginati.* Bracteæ *magnæ, siccæ, spathaceæ.* Flores *speciosi, racemosi, congesti. Lindl.*

Schomburgkia *Lyonsi;* sepalis petalisque ovatis obtusissimis crispis, labello indiviso conformi unguiculato concavo margine crassulo, costis quinque subæqualibus acutis, anthera bicornuta. *Lindl.*

Schomburgkia Lyonsi. *Lindl. in Gard. Chron. September* 2, 1853, *p.* 615.

The spike of this *Schomburgkia* was sent to us by Messrs. Rollison and Son, of the Tooting Nurseries, in August of last year (1859). Dr. Lindley considers it "the prettiest of the genus." It is remarkable for the great length of the reflexed bracts, the uniformity of the sepals and petals, and the copious purple spots on the generally pure-white ground; and these spots arranged in parallel lines. In our specimen the lip is equally white with the sepals and petals, and scarcely spotted at all: in the specimens described by Dr. Lindley from Mr. Lyons' plant, the lip was dull-violet, with a yellowish edge, and deep-crimson ribs. At the time that description was published its native country was not known; but Dr. Lindley has since seen a native specimen in Dr. Alexander Prior's herbarium, which that gentleman had gathered from "the trunk of a tree brought down from hills in St. Ann's parish, Jamaica."

Descr. The foliage of this species has not been seen by us, but Messrs. Rollison describe it as exactly resembling that of *S. crispa, Brocklehurstiana*, and *marginata*. The *scape* is sheathed with bracteas. The *spike* a span and more long: *bracteas*, the lower ones at least, more than three inches long, membranace-

ous, convolute, acuminate, refracted. *Pedicels* (with the ovary) of the same length as the bracts. *Flowers* nearly two inches across: *sepals* and *petals* spreading, nearly uniform, ovate or ovate-lanceolate, crisped, obtuse, white, prettily marked with lines of purple spots, leaving a broader white line down the centre. *Lip* larger than the petals, recurved, acute, and apiculate, much crisped at the margin, white, scarcely spotted, the disc with elevated longitudinal lines or plaits. *Column* curved, bidentate. *Anther-case* hemispherical, with two, conspicuous, curved horns.

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Fig. 1. Column and anther. 2. Lip:—*magnified.*

W. Fitch, del. et lith.

# Tab. 5173.

## CENTROSTEMMA multiflorum.

*Many-flowered Centrostemma.*

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Nat. Ord. Asclepiadeæ.—Pentandria Digynia.

*Gen. Char. Calyx* 5-partitus. *Corolla* 5-fida, abrupte reflexa, laciniis oblongo-lanceolatis, fauce annulo piloso ornata. *Gynostegium* inferne angustatum, sulcatum, corollæ faucem longe superans. *Corona staminea* summo gynostegio inserta, 5-phylla, foliolis dimidia superiori parte gynostegio adnatis stigma superantibus, infer. in cornu calcaratum productis. *Antheræ* parvæ, membrana ovata stigmati adpressa terminatæ. *Massæ pollinis* erectæ, oblongæ, basi et apice obtusæ, compressæ. *Stigma* subdepressum, papilla acutiuscula. *Styli* elongati. *Folliculi* læves, oblongi, attenuati. *Semina* comosa.—Frutices *Moluccani, volubiles;* folia *opposita, coriacea;* umbellæ *interpetiolares v. terminales, pedunculatæ, multifloræ;* flores *majusculi,* pedicellis *gracilibus habituque proprio. Decaisne.*

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Centrostemma *multiflorum;* foliis oblongis vel lineari-oblongis acuminatis basi in petiolum attenuatis, corollæ fauce annulo barbato albo cincta, coronæ staminæ foliolis arcuato-recurvis acutis lobis superioribus brevioribus stigma super acutis. *Decaisne.*

Centrostemma multiflorum. *Dcne. in Ann. Sc. Nat.* 1838, *v.* 9. *p.* 272, *et in De Cand. Prodr. v.* 8. *p.* 634. *Bl. Mus. Bot. Lugd. Bat. p.* 45.

Hoya multiflora. *Bl. Cat. Hort. Buitenz. p.* 49.

Cyrtoceras reflexum. *Benn. in Plant. Jav. Rar. p.* 90. *t.* 21.

Cyrtoceras Lindleyanum. *Dcne. in De Cand. Prodr. v.* 8. *p.* 634.

Cyrtoceras floribundum. *Maund's Botanist, v.* 4. *t.* 178.

Hoya coriacea. *Lind. Bot. Reg.* 1839, *t.* 18 (*not Bl.*).

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Drawn from a fine plant which flowered at Messrs. Hugh Low and Son's Nursery, Clapton, in July, 1859, having been received from Borneo. The leaves seem to be subject to a little variation; those on the specimen represented by Mr. Bennett being longer and narrower, and especially attenuated from near the middle to the base: but the three figures I have quoted seem all to belong to one and the same species, though published under as many different names. Yet Decaisne records two supposed species, and Blume as many as four, apparently established on very slight grounds. The genus, itself but

slightly differing from *Hoya*, appears peculiar to the Malay Islands.

Descr. A glabrous climber, with terete *stems*, and opposite, subcoriaceous, oval or subelliptical, penniveined *leaves*, shortly acuminated at the apex, and more or less attenuated at the base. *Petiole* short. *Peduncles* interpetiolary and terminal, shorter than the leaves, bearing a moderately spreading, many-rayed, slightly drooping *umbel:* the *pedicels* or *rays* as long as the peduncle. *Calyx* small, five-parted. *Corolla* rotate, white, deeply five-lobed; lobes linear-oblong, singularly deflexed, tipped with buff-colour, the margins revolute. *Gynostegium* and *folioles* of the *corona staminea* as in the genus.

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Fig. 1. Flower. 2. Folioles of the *corona staminea*:—*magnified*.

W.Fitch, del. et lith.

Vincent Brooks, Imp.

# Tab. 5174.

## VANDA suavis.

*Fragrant Vanda.*

Nat. Ord. Orchideæ.—Gynandria Monandria.

*Gen. Char. Sepala* explanata, omnia basi æqualia et angustata, sæpius petaloidea. *Petala* sepalis conformia, sæpius basi torta. *Labellum* basi saccatum vel calcaratum, e basi columnæ apodæ continuum carnosum, sæpius sepalis multo brevius, subtrilobum aut integrum, ante calcar sæpius callosum, auriculis nanis v. obsoletis. *Columna* crassa, nana, libera, apoda; *clinandrio* verticali. *Stigma* transversum; *rostello* obtuso v. retuso. *Pollinia* cercacea, plano-convexa, geminata, v. 2 alte bipartita; *caudicula* lorata aut cuneata, pollinis longiore; *glandula* magna, subrotunda vel triangulari. *Anthera* ovata, bilocularis, valvulis semiliberis.—Herbæ *epiphytæ* Asiæ tropicæ. Folia *coriacea, disticha, apice obliqua.* Flores *sæpius racemosi, conspicui.* Pedunculi *laterales. Lindl.*

Vanda *suavis;* foliis loratis flaccide recurvis apice oblique dentatis, racemis laxis elongatis, sepalis petâlisque spathulatis retrorsis convexis valde undulatis sublobatis apice rotundatis, labello convexo trilobo lacinia media angusta alte bifida 3-costata lateralibus longis ovatis acutis patulis, auriculis erectis rotundatis. *Lindl.*

Vanda suavis. *Lindl. in Gard. Chron.* 1848, *p.* 351. *Paxton's Flower Garden, t.* 42. *f.* 3. *Reichenb. Xenia Orchid. v.* 1. *p.* 26. *t.* 12. *Lindl. Folia Orchid. part* 4. *p.* 5 (*excl. var. B* flava, *according to Reichenbach*).

An extremely lovely Orchideous plant, the flowers richly blotched and spotted with blood-purple on a pure white ground, so clear and distinct that they look as if they were made of porcelain. Dr. Lindley refers to it my *Vanda tricolor* (Bot. Mag. Tab. 4434) which I had taken to be the *V. tricolor* of Lindley, but which that author makes var. *flava* of his more beautiful *V. suavis*. Dr. Reichenbach, on the other hand, maintains that it is the true *tricolor*. The differences in fact are more in colour than in structure; so that the description at our Tab. 4434 may answer for the present species. Here the ground colour of the flower is pure china-white, the exterior spotless: the inner face of the sepals and petals is streaked and spotted with purple. The lip is deep purple in the lower half, with three white lines or streaks on the disk; the rest of the lip is paler purple, the whole destitute of spots. The species inhabits Java, but is yet, we believe, rare, and much prized, as it deserves to be, in collections.

Fig. 1. Column and lip, *magnified.*

# Tab. 5175.

## ASTELIA Cunninghamii.

*Allan Cunningham's Astelia.*

Nat. Ord. Junceæ.—Diœcia Hexandria.

*Gen. Char. Flores* polygami, dioici. *Perianthium* subglumaceum, campanulatum v. rotatum, 6-partitum. *Stamina* 6. *Ovarium* trigonum, 1- v. 3-loculare; *ovulis* paucis v. plurimis; *stylo* brevi v. sub-0; *stigmate* trilobo. *Semina* plurima v. pauca; *testa* crustacea, atra, nitida; *embryo* brevis.—Herbæ *sæpe magnæ, plerumque sericeæ, insulis Australasiæ et maris Pacifici incolentes.*

Astelia *Cunninghamii*; foliis elongato-subulatis utrinque sericeis, paniculis sericeo-villosis; masc. effusis, ramis elongatis, perianthii glabrati laciniis subulato-lanceolatis, antheris late oblongis; fœm. panicula subcoarctata, ramis brevioribus, ovario globoso 1-loculari, placentis parietalibus, stigmate sessili 3-lobo, bacca globosa perianthio persistente suffulta, seminibus 6–8 curvis teretibus atris.

A. Cunninghamii. *J. Hook. Flora of New Zealand, v.* 1. *p.* 259.

The curious half-hardy plants, of which one sex only is figured here, was introduced by Dr. Sinclair, R.N., late Colonial Secretary of New Zealand, to the Royal Gardens, where it flowered last February. Though boasting no brilliancy of flower, this forms a beautiful object from the copious long bright silvery hairs with which all its parts are clothed. Without the female flowers it is almost impossible to name the New Zealand species of this genus accurately, but we have little hesitation in referring the present to *A. Cunninghamii*, which is common throughout the Northern Island, usually forming enormous masses on the branches of gigantic forest-trees.

Descr. A tufted silky perennial, with long, linear-subulate, acuminate *leaves*, and large, almost woolly *panicles* of greenish *flowers*. *Perianth*, in the *male plant*, of six equal lobes that are subulate, lanceolate, and finally reflexed, silky when young, glabrous when old, bearing on their bases six erect *stamens*, with short *filaments* and *anthers*. *Ovary* trigonous, globose, with a short, three-lobed *stigma*.

Fig. 1. Male flower. 2. Ovary of ditto:—both *magnified*.

W.Fitch, del. et lith.

Vincent Brooks, Imp.

# Tab. 5176.

## RICHARDIA HASTATA.

*Halbert-leaved Richardia.*

Nat. Ord. Aroideæ.—Monœcia Monandria.

*Gen. Char.* (*Vide supra*, Tab. 5140.)

Richardia *hastata*; foliis subflaccidis hastato-ovatis amplis immaculatis, venis opacis, spatha viridi-lutea apice erecta intus basi atro-purpurea, petiolis glandulosis.

At our Tab. 5140 we published one of two kinds of *Richardia*, received by Messrs. Veitch from the Cape, allied to, and yet very distinct from, the well-known *Richardia*, or *Calla*, *Æthiopica*. Under the first of these we showed the differences between it and *R. Æthiopica*. Our present plant, from Natal, has been received by others, as well as by Mr. Veitch, as a "*red*-" or a "*yellow*-flowered *Calla*," but in reality the flower, or rather the spatha, is a greenish-yellow, with no tinge whatever approaching to red. It is indeed too closely allied to our *R. albo-maculata* above quoted. The *spathas* are rather dirty yellow-green instead of white, broader in the tube, and also in the limb; the petioles are here glandular in their lower half; the *male* portion of the spadix is longer than the female, and the leaves are destitute of the peculiar white pellucid spots so characteristic of *R. albo-maculata*. But I cannot say how far these characters are constant; if they are not, it would be better to unite the two under the name here given, and constitute the var. *albo-maculata* of the other.

The present kind has proved hardy in the Messrs. Veitch's Nursery, at Exeter.

Fig. 1. Column or spadix of flowers. 2. Stamen. 3. Pistil. 4. Transverse section of an ovary with two, and 5, one with three cells:—all but fig. 1 *magnified*.

W.Fitch, del. et lith.

Vincent Brooks, Imp.

# Tab. 5177.

## CEANOTHUS Oreganus.

*Oregon Ceanothus.*

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Nat. Ord. Rhamneæ.—Pentandria Monogynia.

*Gen. Char.* (*See above*, Tab. 4660.)

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Ceanothus *Oreganus;* fruticosa glabriuscula, foliis firmis ellipticis obtusis nunc basi subcordatis longiuscule petiolatis 3-nerviis junioribus subtus leniter pubescentibus serratis, paniculis lateralibus, ramis corymbosis thyrsoideis.

Ceanothus Oreganus. *Nutt. MSS. Torrey and Gray, Fl. N. Am. v.* 1. *p.* 205.

Ceanothus sanguineus. *Hook. Fl. Bor. Am. v.* 1. *p.* 125 (*not of Pursh, according to Nuttall*).

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Here is another hardy *Ceanothus*, allied to, but very distinct from, *C. velutinus*, figured at our Tab. 5165, recently imported to our gardens and shrubberies by Messrs. Veitch of the Exeter and Chelsea Nurseries, from the Oregon territory, through their collector, Mr. William Lobb. It was first detected by Douglas in woods of the Oregon, frequent from the Blue Mountains to the sea; found there also by Nuttall and Tolmie, and Dr. Scouler. I had mistaken it, in my Fl. Bor. Am., for the *C. sanguineus* of Pursh, an indifferently described plant, and a native, it appears, of more southern latitudes, near the Rocky Mountains, on the banks of the Missouri, and which is said to resemble considerably the *C. Americanus*. *C. Oreganus* flowers in May, and bears copious lateral panicles, which are entirely white.

Descr. A *shrub*, four to twelve feet high, with *branches* glabrous, much tinged with red on one side. *Leaves* alternate, firm, subcoriaceo-membranaceous, two to two and a half inches long, petiolate, elliptical, obtuse, three-nerved, rarely subcordate at the base, serrated at the margin, paler beneath, where the young leaves are slightly pubescent. *Petioles* half to three-quarters of an inch long, pale green, with a pair of deciduous *stipules* at the base. *Panicles* axillary, often appearing quite lateral from the deciduous leaves; their branches form dense

*corymbs*, and the collected corymbs a compact *thyrsus*, three to four inches long, of numerous, white, rather long-pedicelled *flowers*. *Calyx* with five segments inflexed upon the ovary, between which the spreading, spathulate, long-clawed petals, with the laminæ very concave and emarginate, are protruded. *Ovary* depressed, half-sunk in a glandular *disk* or *ring*. *Style* short, with three branches, each crowned with a capitate *stigma*.

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Fig. 1. Flower. 2. Pistil and glandular ring :—*magnified*.

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# Tab. 5178.

## AZARA Gilliesii.

*Dr. Gillies' Azara.*

Nat. Ord. Bixineæ.—Polyandria Monogynia.

*Gen. Char. Calyx* 4–6-partitus, laciniis æstivatione imbricatis. *Petala* nulla. *Stamina* numerosa, calycis fundo inserta. *Filamenta* filiformia. *Antheræ* didymo-globosæ, biloculares, latere dehiscentes. *Ovarium* superum uniloculare. *Stylus* simplex. *Stigma* obtusum. *Bacca* coriacea stylo apiculata, unilocularis polysperma. *Semina* subrotunda, placentis tribus parietalibus horizontaliter affixa.—Frutices *Chilenses*. Folia *gemina, inæqualia*. *Pœpp. et Endl.*

Azara (§ Almeja) *Gilliesii;* foliis geminis longe petiolatis majoribus ellipticoovatis coriaceis rigidis remote spinoso-serratis minoribus rotundatis sæpissime deciduis, pedunculis axillaribus solitariis petiolo brevioribus, floribus densis capitato-racemosis, calycibus 4–5-fidis intus dense barbatis ad basin glandulis 4.

Azara Gilliesii. *Hook. et Arn. Bot. Misc. v.* 3. *p.* 144. *Gay, Fl. Chil. v.* 1. *p.* 193. A. intermedia, *ejusd. p.* 195.

The handsomest perhaps of all the species of *Azara*, a genus of shrubs peculiar to Chili, and remarkable for having in the normal state geminate leaves, extremely unequal in size, the lesser one stipuliform. Our living plant of this species, however, does not exhibit, nor do some of our native specimens, these stipulary leaves: others are furnished with them. The leaves have the colour and texture of the Holly, and like them are evergreen; the flowers are minute, but collected into oblong or elliptical heads, resembling golden catkins, from the numerous rich orange-coloured stamens. The species was many years ago communicated to us from Chili by the late Dr. Gillies, and we further possess specimens from Bridges, gathered at Valparaiso and Quillota, and from the Cordillera of St. Iago, gathered by M. Ph. Germain. Seeds were received at the Royal Gardens from Mr. Bridges, and plants have for some time flowered with us in the winter months, and from one of these our figure is made. With us it is kept in a cool greenhouse, but it is quite likely it will bear the open air in a sheltered situation in the middle, especially the south, of England.

April 1st, 1860.

Descr. A *shrub*, said to attain a height of ten to fifteen feet in its native country, with terete, suberect, glabrous *branches*, richly tinged with red. *Leaves* of two kinds on some specimens, in pairs, long-petiolate, the *larger* ones two and a half to three inches long, broad-ovate elliptical subtruncate at the base, acute, dark glossy-green, with strong, distant, subspinose serratures; *petioles* half to three-quarters of an inch long, red; the *smaller* leaves nearly orbicular. *Peduncles* solitary, axillary, shorter than the pedicels. *Flowers* small, numerous in very dense, amentiform, elliptical heads. *Rachis* stout, fleshy, to which the short *pedicels* are attached. *Flowers* dicœcious? or polygamous. *Calyx* four- or five-cleft, woolly within, and having four conspicuous fleshy glands. *Corolla* none. *Stamens* numerous. *Filaments* long, and, as well as the *anthers*, golden-orange. *Ovary* oblong, one-celled, with two or three parietal *receptacles*. *Style* slightly tapering. *Stigma* minute.

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Fig. 1. Flower. 2. Calyx, showing the four glands and pistil (abortive?). 3. Section of a flower. 4. Anther. 5. Gland. 6, 7. Ovaries, cut through transversely:—*magnified.*

W. Fitch, del et lith.

# Tab. 5179.

## GRAMMATOPHYLLUM Ellisii.

*Mr. Ellis's Grammatophyllum.*

Nat. Ord. Orchidaceæ.—Gynandria Monandria.

*Gen. Char.* (*Vide supra*, Tab. 5157.)

Grammatophyllum *Ellisii;* pseudobulbis angulatis clavato-fusiformibus polyphyllis, foliis lato-loratis recurvis basi canaliculatis, racemo multifloro recurvo, sepalis patentibus acutis lateralibus gibbosis, petalis duplo brevioribus oblongis obtusis erectis apice revolutis, labello petalis æquali mobili basi sacculato trilobo jugo medio elevato ultra isthmum 3-lamellato lineisque 3 elevatis arcuatis utrinque, lobo medio ovato acuto lateralibus brevibus subfalcatis, anthera tuberculo pedicellato cristata. *Lindl.*

Grammatophyllum Ellisii. *Lindl. MS.*

The Rev. William Ellis, in a letter addressed to Dr. Lindley, from Hoddesdon, dated August 23rd, 1859, writes:—"Among the plants which I brought from Madagascar was a large-bulbed plant, something like *Anguloa Clowesiana*, only the bulbs are square instead of being round. I found it growing on a branch of a tree about the size of a man's leg, and stretching over a river at about twenty-five feet above the water. The roots were abundant, but short, white, fleshy, and matted together, a little larger than the roots of *Anselia Africana*. The bulbs were seven or eight inches long, and one and a quarter inch square, but last year it made a bulb eleven inches long and nearly two inches wide on each of the four sides. The leaves are one and a half to two feet long, about the size, but not so curved as those of *Angræcum sesquipedale*, and less fleshy than the *A. eburneum*, but, like all the Angræcums, growing on opposite sides of the crown of the bulb: each bulb has five or six leaves. The flower-spike, as in the case of the *Anguloa*, comes up with the young growth, and this year two young bulbs were accompanied by a flower-spike; each one damped off, but the other reached about two feet in length, and at the end furthest from the bulb bore between thirty and forty flowers. The flowers began to open three weeks ago, and as they opened slowly, I thought it would last longer, but on my return on Saturday from the country I found the flowers fading rapidly. I have therefore cut the

spike, and send it to you; some of the flowers are, I hope, yet in a state of sufficient preservation to enable you to determine its species. Mrs. Ellis has also made a coloured drawing of some of the flowers, and a sketch of the whole plant." Such is the first notice of this fine plant on its blossoming in Mr. Ellis's Orchideous house; and from the spike there mentioned, aided by the very beautiful drawing of Mrs. Ellis, the accompanying plate has been executed; the dissections are by Mrs. Crease; and I am indebted to Dr. Lindley for the specific name and character and the following remarks:—

"The genus *Grammatophyllum* is so nearly allied to *Cymbidium* that the two may possibly be united hereafter. They differ, however, first, in the presence of a sac at the base of both the column and lip; and, secondly, usually in the pollen-masses of *Grammatophyllum* being attached towards each extremity of a lunate gland. The first of these characters is the more important; the second can only be regarded as subordinate. It is in the first that the plant before us corresponds with *Grammatophyllum;* in the second it approaches *Cymbidium*. As to habit, the first of these two genera includes very dissimilar plants; *G. speciosum* (see our Tab. 5157) being caulescent, this and *G. multiflorum* being pseudobulbous; a circumstance exactly analogous to what occurs in the great genera *Dendrobium, Epidendrum, Oncidium,* etc.

As a species, *G. Ellisii* is very distinctly characterized by its broad leaves, short petals, gibbous lateral sepals, and smooth lip, which has one stout median rib, separating at the isthmus into three short slender ridges. The anther is moreover crested with a small pedicellate tubercle.

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Fig. 1, 2. Oblique and front view of a flower, with the sepals removed. 3. Labellum, laid open:—*nat. size.* 4. Front view of the column. 5. Pollen-masses (one cut through transversely):—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks Imp.

# Tab. 5180.

## COCOS PLUMOSA.

*Feathery-flowered Cocoa-nut.*

Nat. Ord. Palmæ.—Monœcia Hexandria.

*Gen. Char.* (*essentialis*). *Monoica* in eodem spadice. *Spatha* simplex. *Flores* sessiles, bracteolati. *Masc.*: *Calyx* triphyllus. *Corolla* tripetala. *Stamina* 6. Rudimentum *pistilli*. *Fœm.*: *Calyx* triphyllus et *corolla* 3-petala, convoluta. *Ovarium* triloculare. *Stigmata* tria sessilia. *Drupa* monosperma, putamine basi triporo. *Embryo* in albumine cavo, intra porum basilaris. *Mart.*

Cocos *plumosa*,* Hook.; elata; caudice 30–40-pedali et ultra crassiusculo cylindraceo annuloso-articulato, articulis pedalibus et ultra, frondibus 12–14-pedalibus, pinnis sesquipedalibus solitariis vel 2–4-aggregatis linearibus acuminatis apicibus deflexis, petiolis inermibus basi dilatata amplexante fimbriato-fibrosa, spatha bi-tripedali fusiformi sublignoso, spadicis ramis longis pendentibus, floribus copiosis sessilibus.

This truly noble Palm, long cultivated at Kew, produced its blossoms in the summer and autumn of 1859, probably for the first time in Europe, and was received many years ago from Messrs. Loddiges as a Brazilian species to which Von Martius had given the name of *Cocos coronata*, equally a native of Brazil, but whose character assuredly does not accord with the specific character given by Martius of that Palm: for we do not find the base of the petiole "spinescent" at the margin, nor does the caudex at the setting on of the persistent petioles become "crasso-capitate," nor are the branches of the spadix "erect," but singularly and gracefully drooping. Nor does it accord with any other described species of the genus; so that I am compelled, as it were, against my will, to give it a new name, and to notice it as a new species, to which I give an appellation characteristic of the beautiful and elegant branches of the panicle.

Descr. The *Palm*, now under consideration, forms a striking feature in the Palm-stove of the Royal Gardens, where it has, including its crown of leaves, attained a height of between fifty and sixty feet. The *caudex*, or trunk, forms a graceful erect

* *Cocos plumosa* of Lodd. Cat. (without character or description). *C. comosa*, Mart.

column of about forty feet high, and ten to twelve inches in diameter, more slender upwards, jointed as it were with annular scars of the fallen leaf-stalks; these rings are a foot to fourteen inches apart. Crown of *leaves* or *fronds* extremely beautiful; each leaf is twelve to fifteen feet, petiolate, lanceolate, pinnate, recurved; pinnæ numerous on the rachis, solitary, or more usually two to four aggregated, springing from near each other. *Petiole* subtriangular at the base, very much dilated, of a greyish-brown colour, keeled, at the margin fimbriatedly fibrous, amplexicaul. *Spadix* axillary; two *spadices* during the autumn arose from axils of the leaf-stalks, substipitate, two and a half to three feet long, ligneous at first, at length bursting open laterally, concave and fusiform, almost woody, very erect, rigid, firm, dark dirty-green externally, within tawny, acute and apiculated. As this spatha bursts longitudinally on one side, the *spadix* emerges. This is nearly as long as the spatha, and clothed with numerous, long, gracefully drooping, wax-like branches, loaded with flowers of two kinds, which are sessile on the branches: some female, but mostly male. *Flowers* in bud conical: the *sepals* compactly imbricated. *Sepals* six, three outer (calyx), three inner (petals) ovate, concave, moderately patent, with minute bracteas at the base. *Male* flowers with six, oblong, yellow anthers on short filaments. *Female* with a short downy *ovary*, crowned with three stigmas. *Fruit* a dull orange-flowered apiculated *drupe*, about the size of an acorn of the English Oak.

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Fig. 1. Flowering specimen of *Cocos plumosa*, Hook.,—greatly *reduced*. 2. Spatha and spadix of flowers, also much *reduced*. 3. Portion of a drooping flowering branch,—*nat. size*. 4. Male flower,—*magnified*. 5. Female flower unexpanded. 6. Pistil from the female flower,—*magnified*. 7. Drupe,—*nat. size*.

W. Fitzgerald del. et lith.

Vincent Brooks Imp.

# Tab. 5181.

## CALLIANDRA hæmatocephala.

*Red-headed Calliandra.*

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Nat. Ord. Leguminosæ.—Polygamia Polyandria.

*Gen. Char.* (*Vide supra*, Tab. 4238.)

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Calliandra *hæmatocephala;* frutex, stipulis e basi lata acuminatis nunc subfalcatis adpressis persistentibus, pinnis unijugis, foliolis 7–10-jugis oblongo-lanceolatis acuminatis basi inæquilateris subcordatis binerviis accrescentibus, pedunculis petiolo communi longioribus folio multo brevioribus, floribus dense sanguineis, calyce corollæ quartam partem longo, legumine subfalcato recto e basi angustissima sensim apicem versus dilatato glaberrimo nitidissimo, valvis subcoriaceis, seminibus 4–5. *Hassk.*

Calliandra hæmatocephala. *Hassk. in Retz. v.* 1. *pp.* 216, 144. *Walp. Ann. v.* 4. *p.* 654. *Hassk. Hort. Bogor. v.* 1. *p.* 260.

Inga hæmatoxylon. *Hort. Calcutt.*

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A most lovely shrub with us, but eventually forming a tree thirty to forty feet high, according to Hasskarl, the native country of which does not appear to be known. We have specimens in our herbarium from the Calcutta Botanical Garden, with the unpublished name of *Inga hæmatoxylon*. Hasskarl received it at the Botanic Garden of Buitenzorg from the same source and under the same name; and has rightly referred it to the genus *Calliandra*. It has been sent to the Botanic Gardens of Kew, by Mr. Duncan, from the Mauritius Garden, in 1857, and produced its lovely heads of flowers, for the first time in the stove, in February, 1860. Hasskarl speaks of its affinity with *C. macrophylla* and *C. nitida*, and still more with *C. Surinamensis*, Benth., which differs in the pubescent branches and petioles, and in the more obtuse and smaller leaflets.

Descr. *Shrub*, with glabrous, terete, green *branches*, and copious petiolate unijugate *leaves:* each *pinna* is about five inches long and pari-pinnulate, with seven to ten pairs of opposite *pinnules*, the lowest and shortest an inch long, gradually enlarging upwards to one and a half inch long, all of them more

or less spreading, oblong-lanceolate, scarcely acuminate, two-nerved, the base unequally sided; some of them, especially the superior ones, slightly falcate. *Stipules* small, green, from a broad base subulate. *Petioles* about an inch long. *Peduncles* as long as the petioles, bearing a *capitulum* of small *flowers*, of which the calyx and corolla are almost concealed by the quantity of rich coloured *filaments* of the *stamens*, which radiate from a centre and form a ball of scarlet threads. *Calyx* minute, five-lobed. *Corolla* small, infundibuliform. *Stamens* united into four bundles. *Anthers* minute, abortive. *Ovary* oblong. *Style* a little longer than the stamens.

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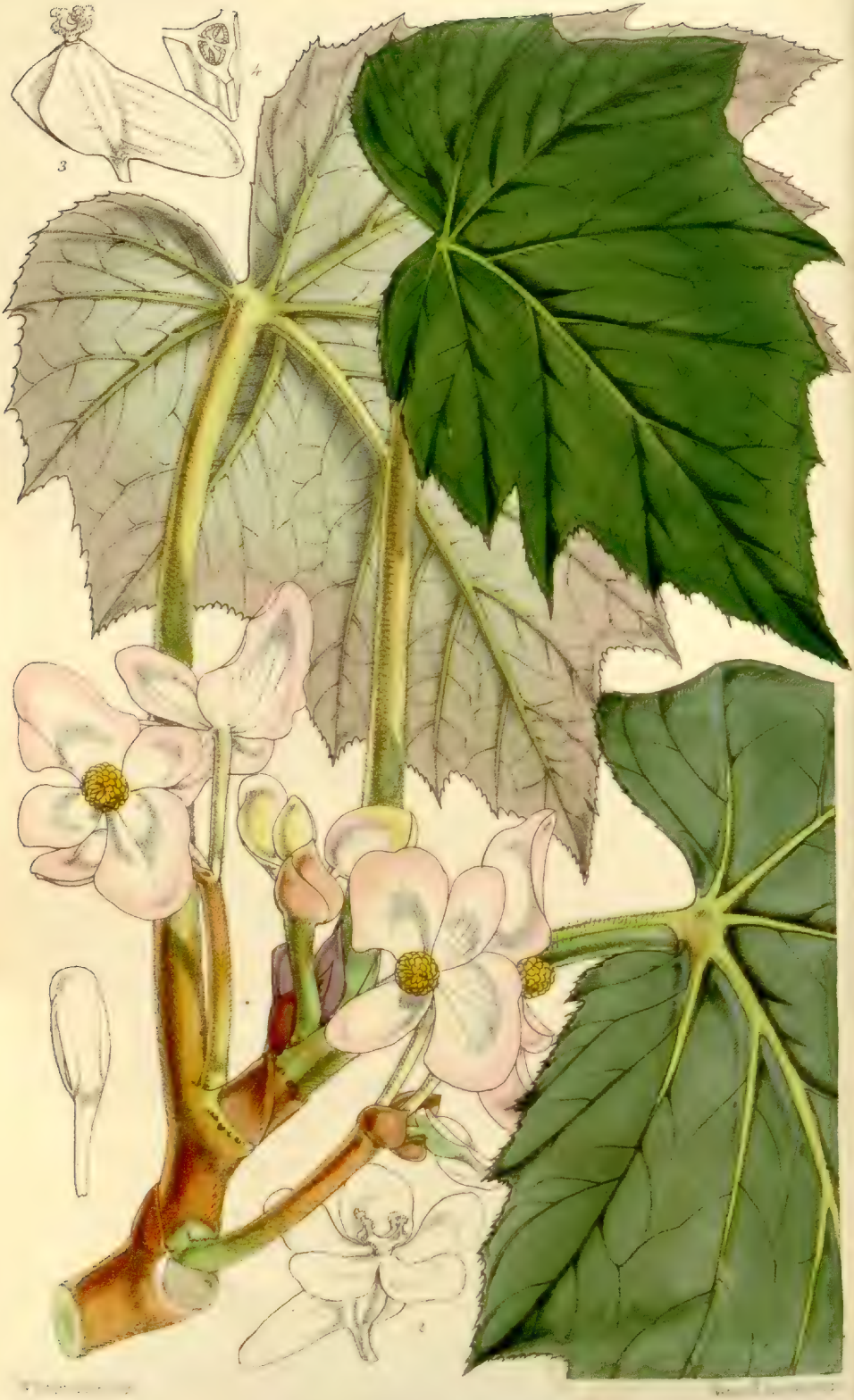
Fig. 1. Flower. 2. Portion of a bundle of stamens. 3. Pistil:—*magnified.*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# Tab. 5182.

## BEGONIA Bowringiana.

*Bowring's Begonia.*

Nat. Ord. Begoniaceæ.—Monœcia Polyandria.

*Gen. Char.* (*Vide supra*, Tab. 4172.)

Begonia (Diplochonium) *Bowringianum;* caule herbaceo erecto ramoso, foliis late inæqualiter cordatis inæqualiter irregulariter 5–7-lobis, lobis latis brevibus acutis dentatis lobatisve supra hispidulis subtus ramulisque novellis rufo-lanatis, pedunculis folio brevioribus paucifloris, capsulæ alis 2 angustis tertia elongata. *Benth.*

Begonia Bowringiana. *Champ. in Benth. Florul. Hongk. Kew Gard. Misc. v.* 4. *p.* 120.

The present species of *Begonia* is very deficient in brightness, as compared with many of the species with richly-coloured foliage, which are such favourites with cultivators of stove plants of the present day; and yet it is so nearly allied to a very handsome species, namely the *B. laciniata*, Roxb. and of this work (Tab. 5021), that I was at first disposed to believe the two were specifically identical. The latter-mentioned *Begonia* is, however, remarkable for the variegated foliage, both on the upper and under side, the larger white petals, with the outer sepals rufo-tomentose, the peduncles longer than the leaves, bearing more numerous flowers, and the very hispid fruit. The present is the only species of the genus yet detected in Hongkong, where it was discovered by the late Colonel Champion; and seeds were sent to us by Mr. Wilford in 1858.

Descr. *Rhizome* "thick fleshy;" the *stem* short, nearly as thick as one's finger, flexuose, jointed, tinged with red, slightly woolly, swollen at the joints. *Leaves* rather large, six to ten inches long, four to six inches broad, very unequally cordate, petiolate, green, and slightly hairy above, dull rufous and somewhat woolly beneath, the *pubescence* deciduous, the margin very irregularly cut into acute or acuminated lobes, and, besides, unequally serrated: *petioles* longer than the leaves, terete, thick, woolly, especially on the anterior side below the blade. *Stipules* large, membranaceous, reddish, cordato-ovate, acuminate. *Peduncles* much shorter than the petioles, axillary, reddish, woolly, bearing three or four flowers, of which the majority are male.

*Bracteas* resembling the stipules. *Perianth* pale rose-colour. *Male flower* large; *sepals* four, two large and broad, two (opposite ones) oblong and narrow, all spreading and subtomentose at the back. *Female flowers* smaller than the male, of five, spreading, equal, obovate *sepals*. *Fruit* villous, at length glabrous, with two short and one very long, oblong, deflexed, striated *wings*.

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Fig. 1. Stamen, *magnified*. 2. Female flower, *nat. size*. 3. Fruit, *ditto*. 4. Transverse section of the capsule, *ditto*.

# Tab. 5183.

## PTERIS quadriaurita ; cum vars.

*Four-eared Brake ; with vars.*

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Nat. Ord. Filices.—Cryptogamia Filices.

*Gen. Char.* (*Vide supra*, Tab. 3247.)

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Pteris (§ Eupteris) *quadriaurita ;* caudice brevi repente, frondibus ovatis ovato-cordatisve acuminatis sæpe amplis subcoriaceo-membranaceis pinnatis, pinnis 5–21 magisve sæpe oppositis lanceolatis profunde fere ad rachin pinnatifidis, rachide supra spinulosa, segmentis oblongis obtusis subintegerrimis terminali elongato, pinnis infimis (rarius pluribus) bipartitis quandoquidem latere inferiori iterum pinnatis, venis furcatis, stipitibus elongatis stramineis fuscisve lævibus v. scabriusculis.

Pteris quadriaurita. *Retz, Obs. v.* 6. *p.* 38. *Willd. Sp. Pl. p.* 383. *Ag. Sp. Gen. Pterid. p.* 24. *Hook. Sp. Fil. v.* 2. *p.* 179. *t.* 134 *B.* (*which see for copious synonyms and remarks*).

Var. *argyræa ;* viridis, linea lata centrali alba.

Pteris (Pyrophylla) argyræa. *T. Moore in Gard. Chron. Aug.* 1859, *p.* 671.

Var. *tricolor ;* intense purpurea demum viridis, linea lata centrali alba vel rosea, rachibus costisque rubris.

Pteris tricolor. *Linden in Gard. Chron. Feb.* 1860, *p.* 123. *T. Moore in Gard. Chron. March* 1860, *p.* 217.

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*Pteris quadriaurita* of Retz, the species here figured, is one of the most common of tropical Ferns, in Asia, Africa, and America, Pacific Islands, etc., and two very interesting varieties arising from the peculiar colouring of the foliage have been lately introduced to our Ferneries by Mr. Linden, of both of which we have here given as much as can be fairly represented in so small a plate. One has the ordinary green colour of *Pteris quadriaurita*, except that a broad white line runs through the centre of all the pinnæ. This Mr. T. Moore raises to the rank of a species, under the name of *Pteris argyræa*. Of it we possess native specimens in our herbarium from Nilghiri, gathered by Mr. M'Ivor (his n. 22) ; from Moulmein, communicated by the Rev. C. S. P. Parish (his n. 141), and we have beautiful living plants from Messrs. Veitch. The other, and infinitely the most beautiful, is

of a deep rich brown-purple colour, with a similar central broad line or band to the one just mentioned, but instead of being white is of a rich rose-colour. This is the only state in which I have myself seen this variety, and such as is here figured, from a recent specimen sent to me by Mr. Linden: but this colour undergoes a change. It would appear that "the fronds are of a beautiful red colour, and when fully developed a rich deep-green, with attractive silvery markings along the sides of the midribs, which are red."

The *Pteris aspericaulis* of Wallich, a name which has been given to this in some gardens, is a very trifling var. of *P. quadriaurita*, with a rough surface to the stipites, a character not apparent in any specimens of the coloured varieties, though as likely to be found in them as in the ordinary green state of the plant. No species can be more variable in size than this, from five or six inches to three feet in length.

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Our Plate represents a small specimen of *P. quadriaurita*, var. *argyræa*, and a young one of var. *tricolor*. Fig. 1. A lateral fertile pinna of the green or ordinary state:—*all nat. size*. 2. Portion of a fertile segment,—*magnified*.

# Tab. 5184.

## PHALENOPSIS grandiflora.

*Large-flowered Indian Butterfly-plant.*

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Nat. Ord. Orchideæ.—Gynandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4297.)

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Phalenopsis *grandiflora*; foliis longis, sepalis lateralibus internum phyllum supremum non tegentibus apice mucronatis, labello phyllis lateralibus externis multo breviori, lobo medio lineari-hastato, lobis lateralibus oblique cuneatis obtusangulis, cirrhis flavis. *Lindl.*

Phalenopsis grandiflora. *Lindl. in Gard. Chron.* 1848, *p.* 39, *with a woodcut of the flower. Walp. Ann. Bot. v.* 3. *p.* 561.

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Dr. Lindley first distinguished this as a species from the well-known and universal favourite, *Phalænopsis amabilis*, in the 'Gardeners' Chronicle,' above quoted, and we cannot do better than transcribe his remarks thereupon:—"A small plant of this noble epiphyte was exhibited on the 7th of September, last year (1847), before the Horticultural Society, by J. H. Schroder, Esq., of Stratford Green, when it received the silver Banksian medal. It was not supposed at that time to be a distinct species from the *Phalænopsis amabilis*, but was regarded merely as a fine variety. Upon a comparison of it with the Manilla species, it proves however to possess so many points of difference, that no doubt can be entertained of its being really distinct. Its flowers are four times as large, the petals do not overlap the back sepal, nor have they the small point which is invariably present in *Phalænopsis amabilis*; the lip is very narrow, much shorter than the lanceolate sepals, and its chief lateral lobes are somewhat wedge-shaped, with the angles rounded off. The distribution of colour, too, is different; there is a large stain of deep yellow on the front edge of the chief lateral lobes of the lip, and the cirrhi are yellow, not white."

Such are the distinguishing characters given by the botanist who has made the Orchideous plants almost the study of his life,

—to which he adds, in the specific definition, "the longer leaves mucronated at the point." Whether these marks are permanent or not, the *Phalænopsis grandiflora* is eminently deserving of a figure in the pages of this Magazine, the more so as no coloured figure of it has yet been published. It is a native of Java, and said to have been introduced to Europe by Messrs. Veitch and Sons, of the Nurseries, Exeter and Chelsea. Our figure is taken from a fine flowering specimen in the Royal Gardens of Kew.

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Fig. 1. Lip,—*magnified.*

W. Fitch del et lith.

Vincent Brooks, Imp.

# Tab. 5185.

## SCUTELLARIA incarnata, var. *Trianai.*

*Flesh-coloured Skull-cap, var.* Trianai.

Nat. Ord. Labiatæ.—Didynamia Gymnospermia.

*Gen. Char.* (*Vide supra*, Tab. 4268.)

Scutellaria *Ventenatii;* perennis erecta ramosa, ramis obtuse tetragonis, foliis sublonge petiolatis crassiusculis ovato-lanceolatis acutis grosse serratis penninerviis vix reticulatis atro-viridibus, racemis terminalibus elongatis subsecundis, bracteis valde deciduis, calyce parvo, corollis elongatis incarnatis calyce multoties longioribus, labio superiore quadrilobo.

Scutellaria incarnata. *Vent. Choix des Pl. t.* 29: *upper figure. Benth. Lab. p.* 429. *De Cand. Prodr. v.* 12. *p.* 416. *Hook. Bot. Mag. t.* 4268.

*β. Trianai,* foliis minoribus, floribus intense roseo-coccineis.

Scutellaria Trianai. *Planch. et Lind. in Lind. Cat. for* 1855, *n.* 10. *p.* 6.

The red-flowered *Scutellariæ* recommend themselves to cultivation by their beauty, and they are, I believe, chiefly natives of tropical America. Some are already in cultivation in our stoves, and greatly admired from the rich colour of their corollas. The present species has been introduced to our collections from Bogotá, and circulated under the name of *S. Trianai* of Klotzsch and Linden, and under that name is mentioned in Linden's Catalogue, but unfortunately without any specific character. We fear, however, it is merely a highly coloured variety of *S. incarnata*, Vent., and of this work, Tab. 4268; and *that*, Mr. Bentham, whose knowledge of the extensive family of *Labiatæ* entitles his opinion to great respect, believes may not be truly distinct from *S. Ventenatii* (Bot. Mag., Tab. 4271); and his own *S. Hartwegi* he thinks may be the same also.

The present variety chiefly differs from *S. incarnata* in the smaller glabrous foliage, and the much richer rose-scarlet of the corollas. It flowers in the spring in the stoves of the Royal Gardens of Kew.

Fig. 1. Flower. 2. Corolla, laid open. 3. Calyx, including the pistil. 4. Ovary, on its large receptacle (or gynophore), with part of the style:—*magnified.*

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# Tab. 5186.

## CHYSIS BRACTESCENS.

*Bracteated Chysis.*

Nat. Ord. Orchideæ.—Gynandria Monogynia.

*Gen. Char. Sepala* paulo connata; laterali pedi producto columnæ adnato et calcar simulantia. *Petala* sepala conformia. *Labellum* trilobum, patulum, venis basi callosis. *Columna* marginata, canaliculata, mutica. *Anthera* subrotunda, opercularis, glabra. *Pollinia* 8, in laminam luteam semifusa; quatuor exterioribus tenuibus, quatuor interiora crassiora abscondentibus. *Rostellum* laminatum, convexum.—Herbæ *epiphytæ, occidentales ab arboribus pendulæ;* caulibus *Cyrtopodii depauperatis;* foliis *nervosis, basi vaginantibus;* racemis *lateralibus multifloris. Lindl.*

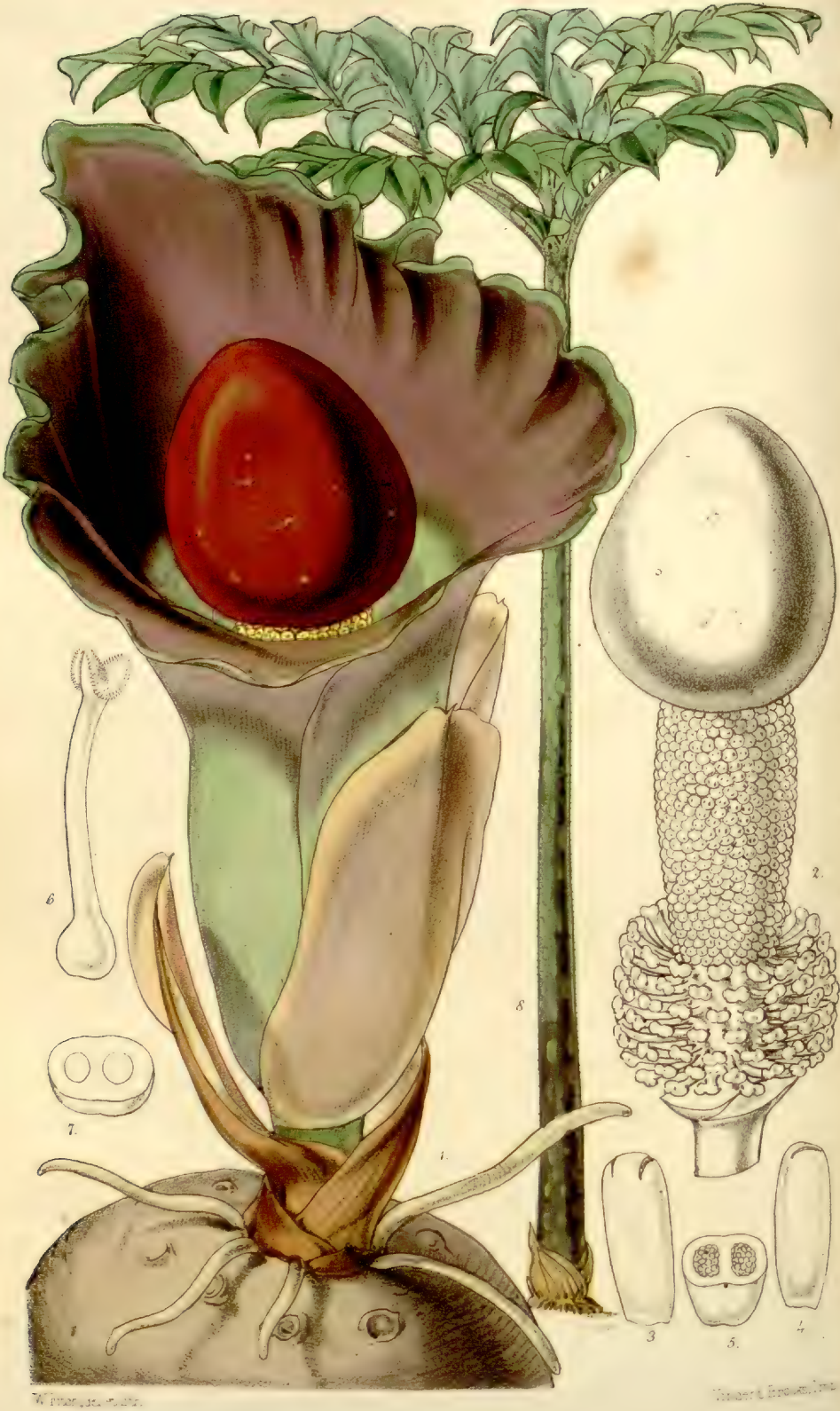
Chysis *bractescens;* bracteis cucullatis venosis foliaceis ovario longioribus, sepalis petalisque ovatis obtusis, labelli lobis lateralibus obtusis intermedio minore carnoso bilobo hypochilio plicato, lamellis 5 carnosis subæqualibus parallelis basi pubescentibus, columna latissima carnosa cymbiformi antice pubescente. *Lindl.*

Chysis bractescens. *Lindl. Bot. Reg.* 1840; *Misc. n.* 131; *et* 1841, *t.* 23.

*Chysis bractescens* is a Mexican plant introduced by Mr. George Baker, with whom it blossomed in 1840. So many intermediate forms exist between this and the original *C. aurea*, on which the genus was founded, that we cannot but question if the two are really distinct. The main character of this is made to depend on the "large, white, not yellow, flowers, and the great leafy bracts" of the plant now figured, whence too the specific name; but the bracts are certainly variable in different individuals, and the colour of the sepals and petals no less so. Our *C. bractescens* has the flowers much larger and of a purer white than Dr. Lindley's figure represents, but the labellum is more yellow than his figure exhibits them; and we have given a figure of a very deeply coloured *C. aurea* at our Tab. 4576, of which we were uncertain whether it should be referred to that or to the present species. Our very noble specimen here figured was drawn from a plant in the Royal Gardens of Kew, in 1847.

Fig. 1. Front view of the labellum. 2. Column. 3. Pollen-masses:—*magnified.*

June 1st, 1860.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# Tab. 5187.

## AMORPHOPHALLLUS dubius.

*Smooth-headed Amorphophallus.*

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Nat. Ord. Aroideæ.—Monœcia Monandria.

*Gen. Char. Spatha* basi convoluta; limbo plano, patente. *Spadix* inferne continuo androgynus, genitalibus rudimentalibus nullis, appendice sterili elongata lævigata v. depresso-dilatata granuloso-verrucosa. *Antheræ* distinctæ, *filamento* brevissimo, loculis duobus oppositis, apice poro duplici dehiscentes. *Ovaria* plurima libera, bi-tri-quadrilocularia. *Ovula* in loculis solitaria, basilaria, anatropa. *Stylus* distinctus v. nullus. *Stigma* capitatum, indivisum vel emarginato- aut depresso-lobatum. *Baccæ* mono-oligospermæ. *Semina* albuminosa (?). Embryo (?).—Herbæ *Indicæ;* tubere *radicali, carnoso;* scapo *radicali, brevi;* foliis *serotinis, subsolitariis, bipinnatifido-decompositis. Endl.*

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Amorphophallus *dubius;* spathæ lato-infundibuliformis limbo subpatente obliquo acutiusculo undulato-crispato, spadice subcylindraceo infra apicem dilatato, appendice conico-rotundato lævi.

Amorphophallus dubius. *Blume, Rumph. v.* 1. *p.* 142. *Schott, Synops. Aroid. p.* 38.

Dracontium Zeylanicum ramoso folio caule ex viridi et flavo variegato aspero. *Herm. Parad. Bat. p.* 89.

Schena. *Hort. Malab. p.* 35. f. 18.

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This is a very singular Aroideous plant, which we owe to our friend Mr. Thwaites, who sent the tubers from Ceylon. It will be at once seen that in all essential generic characters it accords with the still more remarkable species of this family which we published under the name of *Arum campanulatum*, at Tab. 2812 of this work, now *Amorphophallus campanulatus*, Bl. As a species, our present plant is abundantly different; (1) in size, for our figure of *A. campanulatus*, though reduced to one-fourth its natural size, greatly exceeds the natural size of this; (2) the floral portion of the spadix is here broad spindle-shaped, there singularly dilated upwards; and (3) the terminal appendage, there forming an enormous wrinkled expansion, is here conico-globose, quite smooth and even on the surface. A second species of this genus (for all of the others attributed to it now belong to *Conophallus*, Bl.) is derived from Rheede, in Hort. Malabaricus, above quoted, which agrees well enough with our plant to justify

me in considering it the same, *A. dubius*, Bl.: and that is also a native of Ceylon. Our plant flowered in a warm stove in June 1858, and gave out so abominable a stench as almost to render the atmosphere of it insupportable.

Descr. From a rounded depressed *tuber*, about four to five inches in diameter, the flowering portion first arises. A very short *stem* or *scape*, bearing four to five membranaceous, greenish-brown *bracts*, is terminated by a somewhat funnel-shaped *spatha*, six inches long and four wide at the oblique mouth, green, clouded with dull-purple, the limb somewhat expanded, undulato-crispate, subacute. *Spadix* two and a half inches long (not including the terminal appendage), subcylindrical, but a little dilated below the apex, the greater portion densely covered with oblong yellow *anthers*, opening by two pores, and one-third of the base with globose ovaries, bearing a long *style* and a peltate subplicate *stigma*. Terminal *appendage* (or flowerless portion of the spadix) twice as broad as the spadix, conico-subrotund, of a reddish-brown colour, quite smooth on the surface. The flower is succeeded by a large petioled compound solitary leaf, exactly, except that it is smaller, like that described under *A. campanulatus* above quoted.

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Fig. 1. Flower plant,—*nat. size*. 2. Spadix, ditto. 3, 4. Anthers. 5. Section of an anther. 6. Pistil. 7. Section of ovary:—*magnified*. 8. Leaf,—very much *reduced*.

W. Fitch del. et lith.

# Tab. 5188.

## TRADESCANTIA Warszewicziana.

*Warszewicz's Spiderwort.*

Nat. Ord. Commelyneæ.—Hexandria Monogynia.

*Gen. Char. Flores* regulares. *Sepala* 6, libera, patentia; tria exteriora navicularia, persistentia; tria interiora majora, petaloidea, breviter unguiculata, marcescendo persistentia. *Stamina* 6, subhypogyna, omnia fertilia. *Filamenta* libera, plerumque barbata. *Antheræ* conformes; *loculis* reniformibus, *connectivo* varia forma distinctis, interdum tres sepalis exterioribus oppositæ robustiores, loculis replicatis extrorsæ filamentisque brevioribus sustentatæ. *Ovarium* sessile, triloculare; *ovula* in loculis 2, superposita. *Stylus* 1. *Stigma* simplex, obtusum, infundibulare vel peltato-ampliatum. *Capsula* trilocularis, trivalvis, valvis medio septiferis. *Semina* bina, superposita, angulata.—Herbæ *Americanæ, erectæ vel diffusæ, sæpe repentes.* Folia *indivisa.* Vaginæ *integræ.* Pedunculi *axillares et terminales, solitarii, gemini vel plures, apice umbellato-pauci-multiflori, sæpe brevissimi, subnulli, folioque duplici, involucrati. Kth.*

Tradescantia *Warszewicziana;* caule robusto erecto subarborescente dichotomo, ramis dense foliosis, foliis lato-lanceolatis acuminatis striatis basi vaginatis, pedunculis axillaribus foliis multo longioribus subpaniculatim ramosis ramis bracteatis, floribus bracteatis in racemis secundis scorpioideis dispositis, sepalis petalisque lilacinis, staminibus conformibus, filamentis imberbibus, stigmate obtuso.

Tradescantia Warszewicziana. "*Kunth et Bouché, Index Seminum in Hort. Bot. Berol.* 1847, *p.* 11." *Walp. Ann. Bot. v.* 1. *p.* 886.

This is really a handsome stove-plant, and deserving a place in every collection, especially when it is old enough to form a dichotomous, subarborescent, stout stem, with recurved leaves, having a good deal the appearance of an *Aloe*, still more of some *Dracæna;* and the flowers are not only numerous and of a bright purplish rose-colour, but by the constant succession of flowers, the blossoming (in the spring and early summer) is of long duration. It is said to be a native of Guatemala, and is of easy propagation by cuttings.

Descr. *Stem* in our plants a foot or foot and a half long, stout, forked, terete, having a subarborescent character, and marked with the scars of fallen leaves. The *branches* are leafy, chiefly towards the apex. *Leaves* a span to a foot long, from

an entire sheathing base, broad-lanceolate, acuminate, striated, recurved. *Peduncle* axillary, one to one and a half foot long, terete, purplish above, forming a not very copiously branched *panicle* of purple-lilac densely crowded but small *flowers: bracts* are at all the divisions and subdivisions of the *panicles*, large and broad, sheathing in the lower ramifications, small, and more coloured (lilac) at the base of the pedicels, where they are densely imbricated in secund scorpioid racemes. *Pedicels* lilac. *Sepals* and *petals* uniform, the latter the largest. *Stamens* all uniform, beardless.

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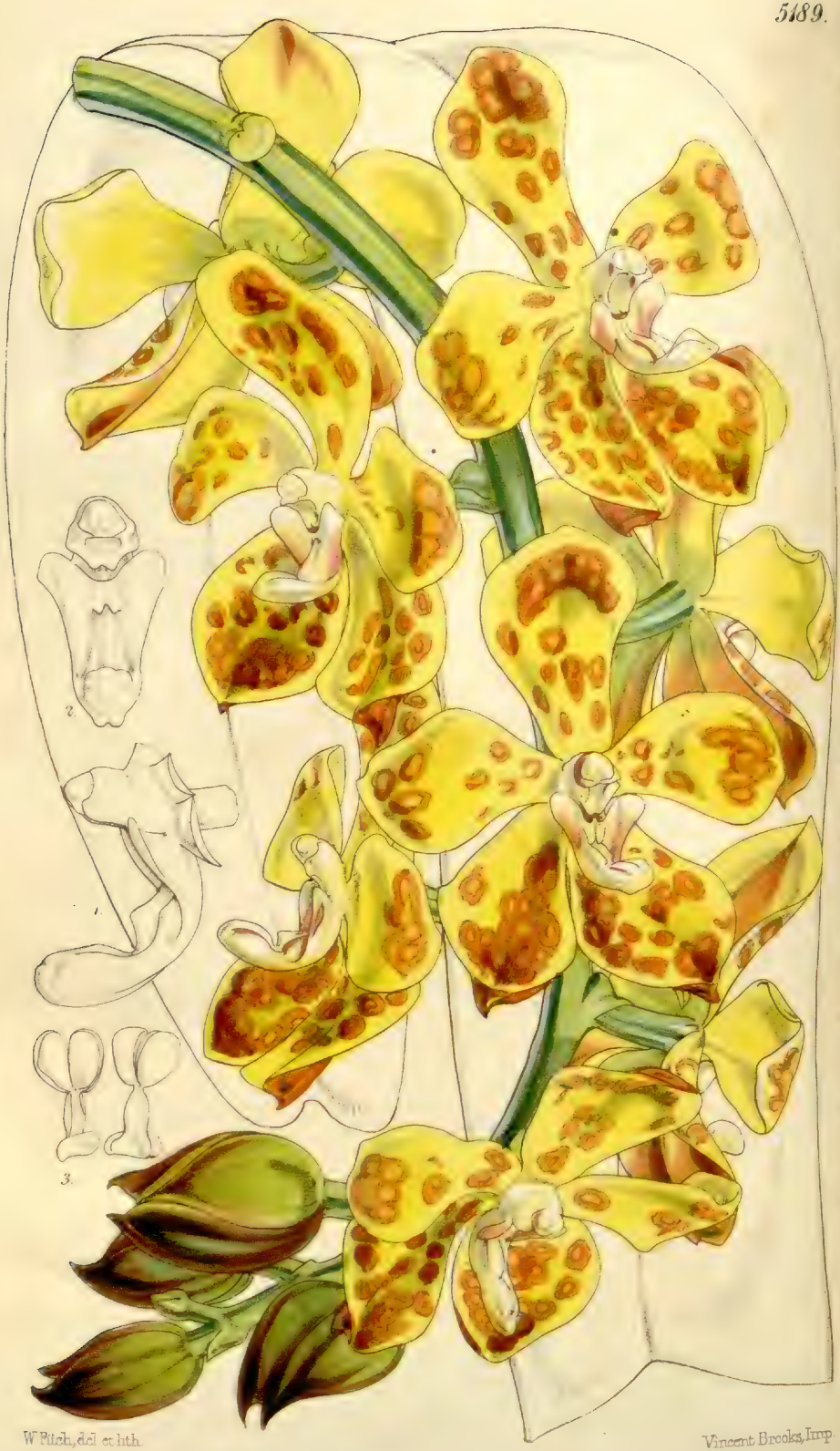
Fig. 1. Reduced figure of an entire plant. 2. Leaf,—*nat. size.* 3. Panicle,—*nat. size.* 4. Flower. 5. Stamen. 6. Pistil:—*magnified.*



W. Fitch, del et lith. Vincent Brooks, Imp.

# Tab. 5189.

## VANDA GIGANTEA.

*Gigantic Vanda.*

Nat. Ord. Orchideæ.—Gynandria Monogynia.

*Gen. Char. Sepala* explanata, omnia basi æqualia et angustata; sæpius petaloidea. *Petala* sepalis conformia, sæpius basi torta. *Labellum* basi saccatum v. calcaratum, cum basi columnæ apodæ continuum, carnosum, sæpius sepalis multo brevius, subtrilobum aut integrum, ante calcar sæpius callosum, auriculis nanis v. obsoletis. *Columna* crassa nana, libera, apoda; *clinandrio* verticali. *Stigma* transversum; *rostello* obtuso vel retuso. *Pollinia* cereacea, plano-convexa, geminata v. 2 alte bipartita; *caudicula* auriculata v. cuneata; glandula magna, subrotunda v. triangulari. *Anthera* ovata, bilocularis, valvis semiliberis.—Herbæ *epiphytæ Asiæ tropicæ*. Folia *coriacea, disticha, apice obliqua*. Flores *sæpius racemosi, conspicui*. Pedunculi *laterales*. *Lindl.*

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Vanda (§ Fieldia) *gigantea;* foliis late loratis apice obtusissimis emarginatis subæqualibus, racemis foliis duplo brevioribus, sepalis petalisque oblongo-obovatis obtusis æqualibus, labello incurvo canaliculato dolabriformi obtuso, callo conico in medio, auriculis nanis rotundatis. *Lindl.*

Vanda gigantea. *Lindl. in Wall. Cat. n.* 7326. *Gen. et Sp. Orchid. p.* 215. *Folia Orchidacea, part* 4, *Vanda, p.* 2.

Vanda Lindleyana. *Griff. Notul. part* 3. *p.* 353.

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We are indebted for a splendid specimen of the rare Orchidaceous plant here figured to Messrs. Veitch and Sons, in whose Orchid House, King's Road, Chelsea, it produced its noble pendent spike of golden-yellow blossoms, we believe for the first time in Europe, in April of the present year, 1860. Mr. Griffith observes of it: "It is the only plant of its kind I have hitherto seen capable of rivalling the American *Vandeæ*." Dr. Lindley remarks that "this is surely an exaggeration;" probably judging only from dried and shrivelled specimens or from imperfect drawings, for to our mind few even of the Malayan Orchidaceous plants, so famous for their size and beauty, can vie with this in richness of colour, "deep-yellow," as Dr. Lindley says, "with cinnamon-brown blotches." Of the truth of this some notion may be formed from the portion here represented. The large, copious, distichous, rich-green leaves set off these large golden flowers to great advantage. It would need an imperial folio

plate to do justice to the whole plant. It is an inhabitant of the Burman Empire, growing on *Lagerstrœmia Regina*, on the banks of the Tenasserim river, near Barlavo, according to Griffith.

Descr. A large species, with copious foliage growing in a distichous manner. *Leaves* broadly lorate, recurved, a foot and a half long, very obtuse, and deeply and unequally emarginate at the apex. *Raceme* large, drooping. *Flowers* three inches long in their greatest diameter, golden-yellow, richly spotted and blotched with cinnamon-brown. *Column* and *lip* white, the the latter small in proportion to the petals, thick and fleshy. Column short.

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Fig. 1. Side view of the column and lip. 2. Front view of the column and anther. 3. Pollen-masses :—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

# Tab. 5190.

## ALOCASIA METALLICA.

*Bronze-leaved Alocasia.*

Nat. Ord. Aroideæ.—Monœcia Monandria.

*Gen. Char. Spathæ tubus* persistens; *lamina* cucullato-cymbiformis. *Spadix* appendiculatus, spatha paulo brevior, inferne ovariis (ovaridiisque interdum), medio floribus neutris, infra apicem synandriis dense obsitus. *Ovaria* subastyla (an semper?). *Stigma* depresso-hemisphæricum. *Synandria* breviter stipitata, loculis sub vertice aperientibus. *Fructus* spathæ tubo irregulariter disrupto et revoluto involucratus. *Bacca* rotundato-obovata (rubra). *Semen* depresso-hemisphæricum.—Rhizome *plerumque elatum, arborescens, approximato- tenuiterque cicatrizatum.* Folia *juvenilis plantæ peltata, vetustioris sæpe ad petiolum usque bipartita.* Costa *et* venæ *utrinque elevato-prominentes.* Pedunculi *breviusculi plures ex una axilla.* Spadices *suaveolentes!—Indicæ. Schott.*

Alocasia *metallica;* acaulis dense cæspitosa, foliis longe petiolatis cordato-ovatis peltatis subbullatis cuspidatim brevissime acuminatis sæpe viridi-æruginosis nitore metallico nitidissimis subtus intense purpureis, scapis rubris bracteatis petiolo subduplo brevioribus, spathæ lanceolatæ subcylindraceæ dimidio inferiore (seu tubo) oblongo, lamina cucullato-cymbiformi anguste sublonge acuminata, ovariis laxiusculis, stylo distincto, stigmate 3–4-lobo.

Alocasia metallica. *Schott*, "*Œstr. Bot. Wochbl. v.* 4. *p.* 410." *Syn. Aroid. v.* 1. *p.* 46.

In former days plants for horticultural purposes were valued in proportion to the beauty of the flowers: now, none are more highly prized than those which possess richness of colouring in the foliage or some other parts of the plant, whether that colouring is the normal state or condition, or to be reckoned among the freaks and sports of Nature, as is presumed to be the case with the now numerous varieties, depending on colour, of the well-known *Caladium bicolor* among *Aroideæ*. The plant we have now the gratification of describing and figuring belongs to that family of plants, but exhibits a foliage and hue which nothing of the kind can exceed, if it can equal, and to which the pencil even of our accomplished artist, Mr. Fitch, can scarcely do justice; for there is a degree of metallic lustre of the leaves on the ample foliage which must be seen to be understood; and

this, too, is accompanied by a rich and very different colouring (rich red) in the scapes that rise copiously beneath the foliage, but never overtop it. We think we cannot be mistaken in referring this noble plant (which in all Europe is perhaps only in possession of Messrs Low, of the Clapton Nursery, who received it from Borneo) to the *Alocasia metallica* of Schott, equally a Bornean plant, notwithstanding some discrepancies in the specific as well as in the generic characters. Our plant has a very distinct style to the ovary, and the stigma is not "depresso-hemisphæricum," but clearly three- or four-lobed.

Descr. From a large underground *tuber* or *rhizome* a cluster of *foliage* springs, of which the petioles are two feet long, rounded, and green, but with the sheaths tinged with rose-colour. The *blade* of the leaves is from twelve to eighteen inches long, a foot wide, with a firm, somewhat succulent texture, and of a form, so common in Aroideous plants, ovato- or elliptico-cordate, peltate, waved at the margin, somewhat bullate on the surface, suddenly and somewhat mucronately acuminate at the apex; the upper surface of a rich bronze-colour, extremely glossy and metallic, exhibiting a beautiful play of light and colour, while the under side is a very dark purple, and equally glossy; *veins* pinnated, exceedingly prominent, falcately curved, springing from a very stout costa: from the point of attachment of the petiole, two stout veins take a downward direction towards the sinus of the blade, an inch and a half apart, and send out four or five spreading and curved side-veins. *Scapes*, several arising from the axils of several of the petioles, much shorter than they, red rose-colour. *Spatha* five inches long, the base or *tube* cylindrical, purple-red, the *lamina* (there is a constriction between the tube and it) cucullate or cymbiform, much acuminated. *Spadix* included, shorter than the spatha: from below, for about one-third of the length, occupied with the somewhat scattered *pistils*. *Ovary* globose; *style* thick, as long as the ovary; *stigma* three or four-lobed. The middle of the spadix is occupied by a compact mass of *stamens*, except at the base, where are some abortive bodies (stamens or ovaries, or both?). The apex of the spadix is formed by the fleshy appendage.

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Fig. 1. Plant in flower, on a very reduced scale. 2. Spadix,—*nat. size*. 3. Stamens,—*magnified*. 4. Single stamen,—*more magnified*. 5. Pistils and two abortive bodies (imperfect stamen and pistil). 6, 7, and 8. Sections of ovaries. 9. Ovule:—*all magnified*.

# Tab. 5191.

## ACACIA Drummondii.

*Drummond's Acacia.*

Nat. Ord. Leguminosæ.—Polygamia Polyandria.

*Gen. Char.* (*Vide supra*, Tab. 4306.)

Acacia (Pulchellæ) *Drummondii;* inermis, ramis pedunculis petiolisque tenuiter puberulis, stipulis subulatis, pinnis bijugis, glandulis verrucæformibus sæpe obsoletis, foliolis 2–6-jugis oblongo-linearibus glabris, spicis cylindricis folia superantibus. *Benth.*

Acacia Drummondii. *Benth. in Lindl. Sw. Riv. Bot. p.* 67; *in Hook. Lond. Journ. of Bot. v.* 1. *p.* 388. *Walp. Rep. Bot. Syst. v.* 1. *p.* 908.

In foliage the present species (one of a very extensive genus) very much resembles the *Acacia Cyclorum* (of our Tab. 4653); but there the branches and rachises of the leaves are densely patenti-hirsute, and the flowers are collected into globose, deep-yellow *heads*. Here the flowers are in cylindrical *spikes*, and of a pale lemon-yellow colour. The leaflets, too, are here much broader. It forms a good-sized bush, and flowers copiously in the early spring months. This and its numerous allies are not encouraged in our ornamental greenhouses so much as they deserve to be, for they render them gay at a season when comparatively few other plants are in blossom; and as soon as they have done flowering, they may be removed to the open air, which will greatly strengthen and benefit them; and they give place to the more gaudy summer flowers: so that by means of plants of temperate regions of the southern hemisphere in the winter, and those of the northern hemisphere in the summer, a perpetual flowering season may be maintained through almost the entire year. *Acacia Drummondii* is a native of Swan River.

Fig. 1. Leaflet. 2. Flower:—*magnified.*

W. Fitch, del et lith.

Vincent Brooks, Imp.

# Tab. 5192.

## CALLIXENE polyphylla.

*Many-leaved Callixene.*

Nat. Ord. Smilaceæ.—Hexandria Monogynia.

*Gen. Char. Flores* hermaphroditi. *Perigonium* corollinum, sex-partitum, patens, deciduum, laciniis æquilongis, tribus interioribus basi biglandulosis. *Stamina* 6, basi laciniarum inserta; *filamenta* libera, basi dilatata, antheræ ovatæ incumbentes. *Ovarium* triloculare. *Ovula* in loculis pauca, amphitropa. *Stylus* crassus, trisulcus; *stigma* obsolete trilobum. *Bacca* trilocularis, pulposa. *Semina* in loculis subterna, subglobosa, *testa* membranacea, tenui, cum nucleo connata, *umbilico* ventrali punctiformi. *Embryo* excentricus, in basi albuminis carnosi respectu umbilici semi-transversus, extremitate radiculari centripeta.—Suffrutex *Magellanicus, ramosus, basi nodosus, triphyllus, squamatus, superne foliatus;* foliis *alternis, semi-amplexicaulibus, ellipticis, nervosis, coriaceis, margine crassioribus;* floribus *terminalibus solitariis,* folio *stipatis,* pedicellis *brevibus, basi squamis* 2–4 *cinctis. Endl.*

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Callixene *polyphylla;* elata valde pinnatim ramosa, foliis numerosis oblongis acutis mucronatis distichis 5–7-nerviis transversimque (sub lente) venosis subtus glaucis, pedunculis folium subæquantibus infra medium bracteatis, floribus pendentibus petalis acutis (siccitate maculatis).

Callixene polyphylla. *Hook. Ic. Plant. t.* 684. *Hook. fil. Fl. Antarct. v.* 2. *p.* 355.

Luzuriaga erecta. *Kth. En. Plant. v.* 5. *p.* 280.

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The first species of this very pretty genus (*Callixene marginata*) being detected by Commerson, on the inhospitable shores of the Magalhaens Strait, was appropriately named *Callixene*, from καλλος, *something beautiful*, and ξενος, *a stranger*. All the known species inhabit high southern latitudes of South America: and the present seems to be confined to the extreme south of Chili; Cape Tres Montes, where it was discovered by *C. Darwin, Esq.*, Isle of Huaffo, *Dr. Eights*, an officer in the United States' Service, and Valdivia, where it is called "Asajur," *Mr. Bridges*. It belongs to the same natural family as our well-known *Lily-of-the-valley*, and is generally seen running over the trunks of trees near the ground, enlivening them with bright-green, Box-like leaves, glaucous beneath, and the gracefully-drooping flowers of the same pure white as the Lily-of-the-valley, but much larger, and instead of being of one piece, cut into six eventually spreading

petals. We owe the possession of this plant at the Royal Gardens to Mr. Standish. It may be kept in a cool greenhouse in an ordinary frame or pit.

Descr. The *root* seems creeping. The *stem* slender, angled, copiously branched in a pinnated manner, a foot or a foot and a half long. *Leaves* very numerous, oval or oblong, mucronate, striated, glaucous beneath. *Peduncles* single: *flowers* one from the axil of each leaf, pendent, and these in a measure concealed by the foliage. The *anthers* are curious, sagittate, opening by a pore at the base of each cell, bent down upon the filament, so that the base of the anther becomes superior.

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Fig. 1. Leaf and flower. 2. Stamens and pistil. 3. Pistil. 4. Section of ovary. 5. Single stamen:—all more or less *magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

# Tab. 5193.

## ONCIDIUM longipes.

*Long-stalked Oncidium.*

Nat. Ord. Orchideæ.—Gynandria Monandria.

*Gen. Char.* (*Vide supra*, Tab. 4824.)

Oncidium (Tetrapetala, Macropetala) *longipes;* pseudobulbis ovalibus diphyllis, foliis angustis tenuibus, scapo bi- (pluri-)floro foliis æquali, pedunculis elongatis, sepalis lateralibus elongatis pendulis basi connatis dorsali breviore latiore refracto, petalis oblongis planis, labelli lobis lateralibus parvis obtusis intermedio transverso apiculato sinu convexo serrato, crista pubescente depressa basi simplici truncata papilla utrinque adpressa apice 3-loba, columnæ alis minimis sinuatis. *Lindl.*

Oncidium longipes. *Lindley, in Paxton's Fl. Garden, v.* 1. *n.* 76. *Folia Orchid. Oncid. p.* 15. *n.* 45.

Oncidium Janeirense. "*Reichenb. fil. in Bonpl. Ap.* 1, 1854."

A Brazilian plant, reared by Messrs. Loddiges from pseudobulbs received from Rio Janeiro. Dr. Lindley considers it identical with his *Oncidium longipes;* but its flowers are so much brighter, and attractive for the size of the plant, that it is quite worthy of cultivation. It differs moreover in the form of the crest of the lip, which is accurately represented at our figure 2. Its flowers appear in April, and continue long in blossom.

Descr. From a creeping *caudex*, about as thick as a writing-pen, pseudobulbs arise in clusters, oblong, tapering upwards, sheathed with brownish scales, bearing two, linear, apiculated, somewhat fleshy *leaves*, linear-oblong, tapering much at the base, apiculate at the point, bright green. *Peduncle* or *scape* slender, arising from between the leaves, bearing a *raceme*, three to four inches long, of several long-pedicellate *flowers*. *Sepals* and *petals* all spreading, dark, almost blood-red-brown within, brownish-green on the outside; superior or dorsal *sepal* spathulate, the margins waved and reflexed, lateral sepals narrower, united at their base, deflexed. *Labellum* large in proportion to the size of the flower, bright, almost golden yellow, with a broad blood-coloured ring at the base surrounding the crest, three-

lobed, lateral lobe small rounded, terminal one large and two-lobed; the margin fimbriated between the principal lobes. *Crest* a slightly downy, elevated, oblong, fleshy disc, lobed at the margin, whitish, and spotted; the apex with three teeth or small lobes, the two inferior curved and subspiniform. *Column* rather short, with two small wing-like lobes beneath the anther.

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Fig. 1. Front view. 2. Lateral view of a flower:—*magnified.*

W Fitch, del et lith.

Vincent Brooks, Imp.

# Tab. 5194.

## PTERIS Cretica, *L.*

*Cretan Pteris.*

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Nat. Ord. Filices.—Cryptogamia Filices.

*Gen. Char.* (*Vide supra*, Tab. 4925.)

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Pteris (Eupteris) *Cretica;* fronde circumscriptione ovata subcoriaceo-membranacea pinnata, pinnis 3–24 remotis digitalibus ad spithamæam sterilibus lanceolatis spinuloso-serratis fertilibus oblongo-linearibus apice serratis infimis bi- rarius tri-partitis, venis plerisque furcatis approximatis horizontaliter patentibus, involucris marginalibus angustis, stipite elongato.

Pteris Cretica. *Linn. Mart. p.* 130. *Sw. Syn. Fil. p.* 96. *Willd. Sp. Pl. v.* 5. *p.* 374. *Schk. Fil. t.* 90. *Ag. Pterid. p.* 9. *Hook. Sp. Fil. v.* 2. *p.* 160.

Pteris semiserrata. *Försk. Descr.* 186.

Pteris serraria. *Sw. Syn. Fil. p.* 96. *t.* 289.

Pteris pentaphylla. *Willd. Sp. Pl. v.* 5. *p.* 362.

Pteris heterophylla. *Poir. (fide Desv.)*

Pteris nervosa. *Th. Fl. Jap. p.* 332. *Wall. Cat. n.* 96.

Pteris vittata. *Bory in Belanger Voy.*

Pteris multiaurita. *Ag. Pterid. p.* 12 (*taller form, with numerous pinnæ*).

Pteris triphylla. *Mart. et Gal. Fl. Mex. p.* 51 *to p.* 81 (*var. with three pinnæ only*), *not of Agardh.*

Var. *stenophylla;* frondibus digitatis vel digitato-pinnatis, pinnis 3–5 subintegerrimis. *Hook. Sp. Fil. v.* 2. *p.* 160.

Pteris stenophylla. *Hook. et Grev. Ic. Fil. t.* 130. *Ag. Sp. Pterid. p.* 11.

Pteris digitata. *Wall. Cat. n.* 91.

Pteris tæniosa. *J. Sm. in Hook. Journ. Bot. v.* 3. *p.* 405.

Var. *albo-lineata;* pinnis linea media lata alba. (Tab. Nostr. 5194.)

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*Pteris Cretica* is far from being peculiar to Crete, as its name would seem to imply; on the contrary, few Ferns have a more extensive geographical distribution, from Turcomania in Uralian Siberia throughout the south of Europe, the Mediterranean and its islands, Arabia, and Abyssinia. It is frequent in various parts of India, and there generally quite maintaining the European

form, from the hot plains to the Himalayas, at elevations of 6000 feet; Bourbon, Penang, Java, Luzon, Ceylon. We possess specimens from the Sandwich Islands, from the Feejees and Loochoo. It appears in the United States, upon rocks on the Apalacha river (very rare), south through Mexico to Guatemala. In South America it has been detected at Entre Rios by Mr. Tweedie. It is no wonder that a plant which is so widely diffused should vary from its genuine type, and have given rise to the notion that there are several distinct species. The most interesting state of the plant, however, is that which we have here represented, where the whole length of the centre is white, with a jagged edge, bordered on each side by dark-green. This, we believe, has never yet been recorded. We were lately favoured with healthy living plants of this from our valued correspondent, Mr. Binnendyk, of the Buitenzorg Botanic Garden, Java, in which country it is a native.

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Fig. 1. Portion of a sterile pinna. 2. Portion of a fertile ditto :—*magnified*.

W. Fitch, del. et lith.

Vincent Brooks Imp.

# Tab. 5195.

## CYRTODEIRA cupreata, var. *viridifolia.*

*Coppery Cyrtodeira; green-leaved var.*

Nat. Ord. Gesneriaceæ.—Didynamia Angiospermia.

*Gen. Char.* Cyrtodeira, *Hanst. Calyx* parvulus, *foliolis* anguste lanceolatis patentibus v. recurvatis. *Corollæ tubus* basi postice gibbus, sursum dein deorsum curvatus, leviter ampliatus. *Annulus* et *glandula. Stigma* stomatomorphum. *Filamenta* inter se et cum corolla basi connata. *Hanst.*

Cyrtodeira *cupreata;* repens stolonifera undique pubescenti-hirsuta, foliis ellipticis petiolatis serratis reticulatim venosis (cupreatis v. viridibus), pedunculis axillaribus solitariis unifloris petiolo longioribus, calycis laxi profunde 5-partiti laciniis lineari-spathulatis subsecundis, corollæ tubo calycem subduplo superante curvato, ore fimbriato-glanduloso, limbi patentis lobis rotundatis planis crenatis, staminibus styloque inclusis.

Var. *cupreata;* foliis cupreatis.

Achimenes cupreata. *Hook. Bot. Mag. t.* 4312.

Cyrtodeira cupreata. *Hanst. Gesn. in Linnæa, v.* 26. *p.* 207. *t.* 2. *f.* 39.

Var. *viridifolia;* foliis viridibus. (Tab. Nostr. 5195.)

Tapina (Achimenes) splendens. *Triana, in Lind. Cat.* 1857 (*name only*).

The Natural Order of *Gesneriaceæ* has recently occupied the attention of Dr. Oersted and Dr. Hanstein, and the result of their studies has been the establishment, in the view of the latter author, of sixty-seven genera, divided into two principal, and twelve sub-tribes. These are accompanied by well executed figures of the flowers of each genus. Our *Achimenes cupreata* (Bot. Mag. Tab. 4312) there constitutes a new genus, with the character given above. That plant, native of New Grenada, is remarkable for the coppery colour of the foliage. Our present plant, from the same region, differs, and differs only from it in the much larger flowers, and in the absence of the coppery tinge to the foliage. I cannot therefore agree with M. Triana, who has constituted of it a new species, and who has referred it to the genus *Tapina*, Mart., with which it does not correspond. Mr. Linden observes of it (for there is no specific character or description),—"Cette jolie plante rappelle par le port l'*Achimenes cupreata*, dont il diffère toutefois par la teinte argentée des

feuilles, et par des fleurs d'un éclat peu commun dans le règne végétal, et dont le vif écarlate trouve à peine une comparaison dans la fleur du *Pelargonium zonale*." Our plant, which flowered copiously in the hothouse, in the spring of 1860, was received from the nursery of Messrs. Henderson, Wellington Road.

Superior as this is to our *Achimenes cupreata* above referred to, in the size and beauty of the flowers, and different as is the colour of the leaves, they nevertheless are the only differences.

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Fig. 1. Corolla, laid open. 2. Pistil and gland. 3. Ovary and gland:—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

# Tab. 5196.

## HABENARIA Salaccensis.

*Salakian Habenaria.*

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Nat. Ord. Orchideæ.—Gynandria Monandria.

*Gen. Char.* (§ Ophrydeæ). *Perigonii* galeati *foliola* subæquilonga, *exteriora* cum interioribus multo angustioribus integris bi-trifidisve conniventia. *Labellum* elongatum, pendulum, integrum v. bi-trifidum, elongato-calcaratum. *Anthera* erecta, loculis solutis, basi divergentibus, canalibus stigmaticis adhærentibus, *rostello* plano, antheræ adnato, processubus duobus stigmaticis, variis sæpius ori stigmatis adnatis. *Polliniarum glandulæ* nudæ.—Herbæ *habitu* Orchidis, *majusculæ, inter tropicos totius orbis obviæ; in America, ubi etiam in extratropicis utriusque hemisphærii occurrunt, frequentiores; in Asia temperata raræ. Endl.*

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Habenaria (§ Erostres) *Salaccensis*, foliis lanceolatis acuminatis striatis, racemo laxo plurifloro, bracteis membranaceis lineari-subulatis ovario longissimo pedunculiformi brevioribus, labello tripartito, laciniis linearibus, basi biglanduloso, calcare filiformi recurvo ovario multo breviore, sepalis ovato-lanceolatis herbaceis.

Habenaria Salaccensis. *Bl. Bijdr. p.* 403. *Tabell. Orch. f.* 13 (*flower only*). *Lindl. Gen. et Sp. Orchid. p.* 308.

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A rare and apparently little-known species of *Habenaria*, found by Blume on Mount Salak, in Java, and lately sent to the Royal Gardens of Kew, in a living state, by M. Binnendyk, of the Botanic Garden of Buitenzorg, Java. It flowered with us, in the stove, in April, 1860. Dr. Lindley only knew it from Blume's figure of the flower and the very brief specific character above referred to.

Descr. The *root*, in our living specimen, consists of a large (for the size of the plant), fusiform, fleshy *tuber*, and three or four shorter yet thick fleshy fibres. *Stem* twelve to fourteen inches high, at the base partially clothed with two to three sheathing scales, leafy upwards; *lower leaves* four to five inches long, lanceolate, acuminate, striated, the superior ones becoming gradually smaller, bracteiform. *Raceme* ovate, five to six inches long. *Pedicels* short, clothed with two or three narrow-lanceolate bracts; *ovary* elongated and resembling the pedicel, but angled and

slightly twisted. *Sepals* spreading, ovato-lanceolate, acuminate, green. *Petals* reddish, very narrow, linear-subulate, bipartite at the base. *Lip* elongated, tri-partite, segments narrow-linear, middle one longer: at the base are two, large, oblong, fleshy *glands*. *Spur* reflexed, narrow, almost subulate, tipped with orange, shorter than the ovary. *Column* short. Base of the *anther-cells* long and divergent.

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Fig. 1. Base of the stem, with root,—*nat. size*. 2. Side view of a flower. 3. Front view of ditto:—*magnified*.

Vincent Brooks, Imp.

# Tab. 5197.

## IXORA jucunda.

*Mr. Thwaites's Ixora.*

Nat. Ord. Rubiaceæ.—Tetrandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4325.)

Ixora *jucunda;* foliis glabris lanceolatis v. ovato-lanceolatis acuminatis basi angustatis petiolatis, corymbis primariis elongatis, bracteolis parvis acutis, segmentis calycinis truncatulis ovario brevioribus. *Thwaites.*

Ixora jucunda. *Thwaites, Enum. Plant. Zeyl. p.* 155.

*Ixora* is a genus of plants almost peculiar to tropical Asia, of which thirty-four kinds are enumerated by De Candolle, in the fourth volume of his 'Prodromus,' which appeared in 1830. Many additions have been since made by Wallich and Wight and Bentham, etc. But it must be confessed that many of the species are so described that they are very difficult of determination. It is very fortunate therefore when, as in the present instance, we have the discoverer and describer of the species as the authority for the name. This is one of the many interesting plants of Ceylon we have received from our valued friend Mr. Thwaites. Of it he enumerates two varieties, differing in the breadth of the leaves, and much more remarkably in the length of the tube of the corolla, sometimes only two to three lines long; sometimes, as in our plant, fourteen lines long. It is not an uncommon species, attaining on the hills an elevation of 4,000 feet. It first produced its flowers with us, in the stove, in May, 1860.

Descr. A *shrub*, with much the aspect of *Ixora acuminata*, Boxb.; in its native country from ten to twenty feet high, with subcoriaceous, opposite *leaves*, three to seven or eight inches long, and, according to Thwaites, one to four inches broad, obscurely penniveined, broad-lanceolate, but varying from narrow-lanceolate to ovato-lanceolate on the same or on different specimens, rather abruptly acuminate, tapering below into a short *petiole*

scarcely two lines long. *Stipules* ovate, sharply acuminate, reddish. *Corymb* terminal, short-peduncled, trichotomous, pedicels very short. *Flowers* very compact, erect. *Calyx* small, slightly downy, subtended by a minute, oblong, acute bracteole, at the base of the inferior ovary: limb of four, close-placed, small, erect, lanceolate teeth or segments. *Corolla* white, or rather inclining to cream-colour in our plant, long, hypocrateriform: *tube* very slender, terete, fourteen lines long: *limb* spreading, almost three-quarters of an inch in diameter, of four obovate, rather acute *lobes*. *Anthers* subulate, quite exserted. *Style* as long as the tube of the corolla. *Stigma* bipartite.

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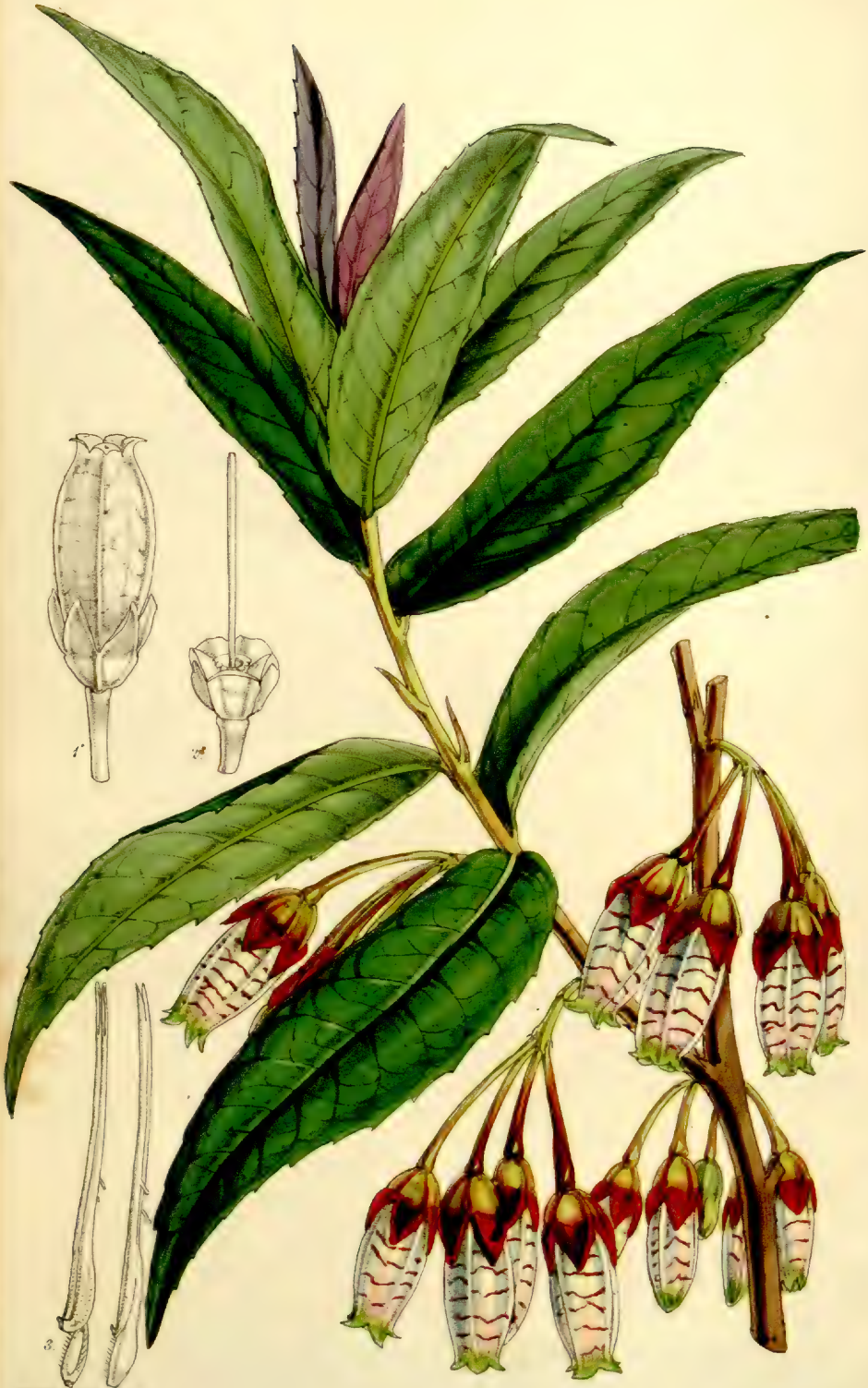
Fig. 1. Flower. 2. Pistil:—*magnified.*



W Fitch, del et lith.

Vincent Brooks, Imp.

## Tab. 5198.

# PENTAPTERYGIUM RUGOSUM.

*Rugose Pentapterygium.*

Nat. Ord. Vacciniaceæ.—Decandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4910.)

Pentapterygium *rugosum*; ramis foliisque glabris, ramulis petiolisque junioribus pubescentibus, foliis coriaceis subsessilibus lanceolatis v. ovato-lanceolatis acuminatis basi cordatis serratis superne rugoso-venosis subtus pallidioribus, floribus in corymbos foliis brevioribus breve pedunculatis aggregatis nutantibus, pedicellis pilosulis, calycibus glabris, lobis late ovato-triangularibus obtusis subfoliaceis corolla alba transverse purpureo-fasciata ter brevioribus.

Vaccinium rugosum. *Hook. et Thoms. Ms.*

This remarkable and beautiful plant was originally detected by Griffith in the temperate regions of the Khasya mountains, where it has since been gathered by Drs. Hooker and Thomson, who have distributed it in their Indian Herbarium under the name of *Vaccinium rugosum*. It was also found by Dr. Hooker in the Sikkim-Himalaya mountains, and by Mr. Booth in the Bhotan Himalaya. The plant here figured was sent by Mr. Thomas Lobb to Messrs. Veitch and Son, with whom it flowered in May of the present year. It succeeds well in a common greenhouse. At Tab. 4910 will be found figured another species of this genus, together with some observations on its congeners, including this. The beautiful transversely fasciated colouring of the corolla on a white ground, exactly recalls that of the *Thibaudia macrantha* (Tab. 4566), but the colour of the flower probably varies, as we find that it is described in the notes to the wild specimens as varying from deep-red to purple.

Descr. A glabrous *shrub*, often epiphytical, forming a large tuberous rhizome or caudex on the trunks of lofty trees. *Branches* covered with circular pale pustules. *Leaves* almost sessile, subcordate at the base, very coriaceous and rugose, almost lacunose on the under surface, lanceolate or ovate-lanceolate, acuminate, serrate, deep bright-green above, pale beneath, the young ones

purplish. *Flowers* pendulous, in few-flowered corymbs, about an inch long. *Calyx* and base of the *pedicel* deep-red, lobes of the calyx almost membranaceous. *Corolla* with a strongly five-angled tube, having a prominent rib at each angle, nearly white, beautifully marbled between the angles with slender, waving, transverse, purple or blood-red bands, giving it an exquisitely beautiful and china-like appearance, the mouth contracted and greenish. *Anthers* with minute spurs at the back, about the middle. *Berry* fleshy, insipid. The calyx-lobes vary a good deal in length and breadth, and the peduncles and pedicels also in length.

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Fig. 1. Flower. 2. Calyx-tube and ovary, style and stigma. 3. Anthers:—*all magnified.*

W. Fitch, del. et lith.

Vincent Brooks Imp.

# Tab. 5199.

## CALADIUM bicolor, var. *Neumannii*.

*Two-coloured Caladium; Neumann's var.*

Nat. Ord. Aroideæ.—Monœcia Monandria.

*Gen. Char. Spatha* ventricosa, basi convoluta. *Spadix* apice omnino staminifer, quandoque mucronatus, mucrone nudo, medio glandulosus, basi tectus germinibus. *Antheræ* sessiles, in spiram dense dispositæ, peltatæ, sub pelta ad ambitum multiloculares vel pluries sulcatæ, sulcis pollen concatenatum emittentibus. *Glandulæ* seu *antheræ steriles* multiplici serie adnatæ spadici, inæquales, oblongæ, angulosæ, obtusæ, ad ambitum sulcatæ. *Germina* numerosa, sessilia, subrotunda, depressa; *styli* nulli; *stigmata* umbilicata, viscoso humore referta. *Vent.*

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Caladium *bicolor;* foliis peltatis ovato-sagittatis, lobis profundis paululum divaricatis bicoloribus, spatha erecta basi subglobosa medio coarctata apice ovato-acuminata.

α. foliis disco rubicundo.

Caladium bicolor. *Vent. Pl. Nouv. t.* 30. *Willd. Sp. Pl. v.* 4. *p.* 488. *Ait. Hort. Kew. ed.* 2. *v.* 5. *p.* 311. *Kerr, in Bot. Mag. t.* 2543. *Hook. Ex. Fl. t.* 26. *Schott, Syn. Aroid. p.* 54.

Arum bicolor. *Ait. Hort. Kew. v.* 3. *p.* 316. *Sims, Bot. Mag. t.* 820.

β. foliis maculatis maculis roseo-sanguineis ocellatis ocellis limboque albis.

Caladium Neumannii. *Ch. Lem. in Fl. des Serres*, 1860, *p.* 104.

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In proportion as the cultivation of plants peculiar for coloured foliage increases in favour with the public, so, it would appear, do their varieties; and among the more beautiful of them will rank numerous *Aroideæ*. Ventenat first described what is assuredly the normal state of this species of *Caladium* (that indeed on which the genus itself is founded), *bicolor*, peculiar in the rich red colour of the disc of the leaf, and running up, as it were, along the principal veins, and disappearing at some little distance from the margin. Here, in a plant no ways differing specifically, we have the red collected in spots of unequal sizes and forms over the whole disc of the leaf, but never touching the margin; and these spots are of a deep rose-red, freckled and margined with

white. It is a plant that loves heat and plenty of moisture, and the offsets should be frequently removed: indeed it succeeds best in a warm stove, with the pots standing in a pan of water.

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Fig. 1. Spatha, laid open. 2. Anther. 3. Pistil. 4. Vertical section of the ovary. 5. Transverse section of the ovary:—*magnified.*

W. Hutchinson del. et lith.

Vincent Brooks, Imp.

# Tab. 5200.

## ROSA sericea.

*Silky-leaved Rose.*

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Nat. Ord. Rosaceæ.—Icosandria Di-Pentagynia.

*Gen. Char.* (*Vide supra*, Tab. 4030.)

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Rosa (§ Caninæ) *sericea;* ramis villoso-glandulosis, aculeis validis stipularibus e basi dilatata compresse subulatis rectis, foliolis 7–9 parvis ovalibus serratis, floribus plerisque tetrapetalis, fructibus turbinatis calycibusque externe pubescentibus.

Rosa sericea. *Lindl. Monogr. Ros. p.* 105. *t.* 12. *Royle, Fl. Himal. p.* 208. *t.* 42. *f.* 1. *De Cand. Prodr. v.* 2. *p.* 613. *Wall. Cat. p.* 695.

Rosa tetrapetala. *Royle, l. c. p.* 23.

Rosa Wallichii. *Trattin. Ros. v.* 2. *p.* 193.

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A white-flowered, usually tetrapetalous Rose of Himalaya, first detected by Dr. Wallich at Gossam Them, but since found abundantly in northern India. Dr. Lindley speaks of it as "a Rose which, together with *R. macrophylla*, found in the same district, exhibits the nearest approach among Indian Roses to those of Europe." Introduced by Dr. Hooker and Mr. Strachey into our gardens, where it proves perfectly hardy, and is best treated by nailing against a wall. Thus situated, its blossoms are abundant in the early summer.

Descr. A moderate-sized *bush*. *Branches* numerous, stout, green when young, at length brown, clothed with copious, rather short, spreading, glandulose hairs or setæ; the glands clammy, and yielding an aromatic odour. *Prickles* rather distant, large, strong, dark purple, from a very broad dilated base, laterally compressed, subulate, very pungent, straight, generally appearing below the base of a stipule. *Leaves* about four inches long, long-petiolate, *petiole* with a pair of lanceolate *stipules*, decurrent, and forming a broad wing to the base of the petiole. *Leaflets* seven to nine, small, from half to three-quarters of an inch long at the utmost, oval or subobovate, strongly serrated

at the base, silky, or rather glanduloso-hirsuta in our specimens, beneath. *Flowers* solitary, upon the peduncles a little drooping, moderately large in cultivated specimens, small in native ones. *Peduncle* and *calyx-tube* villose, the hairs tipped with a gland; the limb of four, rarely five, ovato-lanceolate, acuminated segments, shorter than the *petals*, pubescenti-villous on the outside. *Petals* broad-obcordate, four, rarely five, spreading, white. *Fruit* globoso-turbinate, rather small, glandular, crowned with the persistent calyx-segments. *Stamens* numerous. *Styles* free.

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Fig. 1. Flower, from which the petals are removed,—*magnified*. 2. Fruit,—*nat. size*.

W. Fitch, del. et lith.

Vincent Brooks, Imp.

# Tab. 5201.

## YUCCA canaliculata.

*Channel-leaved Yucca, or Adam's Needle.*

Nat. Ord. Liliaceæ.—Hexandria Monogynia.

*Gen. Char. Perigonium* hexaphyllum; *foliola* æquilonga, interiora latiora, campanulato-conniventia, ima basi connata, marcescendo-persistentia. *Stamina* 6, perigonii foliolis basi inserta; *filamenta* brevia, plana, apice latiora. *Ovarium* triloculare. *Ovula* in loculis plurima, horizontalia, biseriata, anatropa; *stigmata* 3, sessilia, basi subconnata, apice patentia. *Capsula* oblonga, obtuse hexagona, subbaccata, vertice primum forata, demum loculicido-subtrivalvis, trilocularis, v. septis secundariis incomplete sexlocularis. *Semina* plurima, biseriata, horizontalia, obovata, compressiuscula. *Testa* coriacea, nigra. *Embryo* axilis, dimidio albumine breviore, extremitate radiculari umbilico proxima.—Plantæ *in America tropica cis æquatorem et in boreali calidiore indigenæ;* caudice *sæpius arborescente, interdum hypogæo;* foliis *in apice caudicis confertis, lineari-lanceolatis, crassis, rigidis, margine sæpius spinuloso-serratis;* scapo *e foliorum centro bracteato, paniculato. Endl.*

Yucca *canaliculata;* caule sesquipedali crasso, foliis densis bipedalibus lanceolatis crassis supra basin latioribus sensim spinoso-acuminatis rigidissimis insigniter concavo-canaliculatis subtus asperis superne lævibus marginibus integerrimis rubro-subcartilagineis, panicula ampla compacta densiflora, floribus sulphureis, perianthio globoso, foliolis late ovatis acutis concavis acutiusculis basi subito angustis.

We were much struck with the beauty of this Yucca in the cool greenhouse of W. Wilson Saunders, Esq., Hillfield, Reigate, in the summer of the present year. His flowering specimen had been purchased at the sale of the collection of the late Robert Bevan, Esq., of Bury St. Edmund's; name and locality unknown. A young plant of the same kind had been received by Mr. Saunders, from Paris. It appears to be quite undescribed, and is probably of Mexican origin. It belongs to the section "foliis margine integerrimis," and may rank next to *Yucca gloriosa*, Linn., differing however remarkably from that in the form and colour of the flowers, and still more in the singularly straight, rigid, very concavo-canaliculated foliage. We know of

no species, either, with such densely flowered panicles. The plant is probably of considerable age, and has perhaps attained its ordinary size.

Descr. *Stem* erect, eighteen inches high, three to four inches in diameter, unbranched, transversely marked with the scars of fallen foliage. *Leaves* nearly two feet long, spreading on all sides, numerous, twenty to twenty-four inches long, closely imbricated on the trunk, lanceolate, firm and hard, coriaceous, subglaucous, contracted at the base, then dilated and gradually tapering to a rigid spinulose point, very concave in its whole length (*canaliculato-concava*), almost semicylindrical, asperous beneath, smooth above, the margins entire, with a subcartilaginous and red-brown line at the very edge of the younger leaves. *Panicle* terminal, a large compound *raceme*, each branch thickly clothed with large, sulphur-coloured, drooping, globose *flowers*. *Folioles* or *sepals* subconnivent, broad-ovate, scarcely acute, contracted at the very base. *Stamens* and *pistil* as in the genus.

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Fig. 1. Flowering plant,—much *reduced*. 2. Portion of a leaf and of a panicle, —*nat. size*. 3. Pistil. 4. Stamen :—*magnified*.

Vincent Brooks Imp

# Tab. 5202.

## CATASETUM atratum.

*Dark-flowered Catasetum.*

Nat. Ord. Orchideæ.—Gynandria Monandria.

*Gen. Char.* (*Vide supra*, Tab. 4792.)

Catasetum *atratum*; racemo decurvo, sepalis petalisque patentibus ovatis acutis, labello carnoso cucullato margine tenui-pectinato apice rotundato reflexo crasso denticulato. *Lindl.*

Catasetum atratum. *Lindl. Bot. Reg.* 1838; *Misc. n.* 114; *and same volume, t.* 63.

A singular species, imported by Messrs. Loddiges from Brazil more than twenty years ago, and of which Dr. Lindley candidly says: "Had this been known when the now-abolished genus *Myanthus* was proposed, that error would not have been committed, for the species is neither exactly a *Myanthus* nor exactly a *Catasetum*." It flowered in the Royal Gardens of Kew in May, 1860.

Descr. Fully-formed *pseudobulbs* of this *Catasetum* are about five inches long, oblong, jointed, partially sheathed with white striated membranaceous *scales*. *Leaves* terminal, three, broad-lanceolate, tapering downwards, submembranaceous, striated, dark-green above, paler below, and there having three prominent ribs. *Scape* from the bottom of a young pseudobulb, bracteated, pendent, as is the *raceme* of large numerous *flowers*, of which the ground-colour is a lurid green. *Sepals* and *petals* equal, spreading, ovate, acute, concave, blotched with copious, transverse, oblong, purple-brown spots, which are sometimes confluent; externally these spots are faint and obscure. *Lip* about as long as the sepals and petals, fleshy, ovate, cucullate, but the deep cavity is confined to the centre of the lip; the margin is not only open, but spreading, and somewhat reflexed, beautifully fringed with brown bristles, and marked with a few brown spots; the apex is pale yellow-green, spotless, and much reflexed. *Column* semiterete, acuminate, pale yellow-green.

Fig. 1. Column and lip,—slightly *magnified*.

Vincent Brooks, Imp

## Tab. 5203.

# BESCHORNERIA yuccoides.

*Yucca-leaved Beschorneria.*

Nat. Ord. Amaryllideæ.—Hexandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4642.)

Beschorneria *yuccoides*; foliis pedalibus sesquipedalibusque lanceolatis inferne angustatis basi dilatato-vaginatis apice acuminatissimis, scapo 3–4-pedali gracili bracteato racemoso-paniculato corallino, ramis gracillimis elongatis floribusque pendentibus, bracteis roseis, sepalis clausis rectis.

Beschorneria yuccoides. *Hortul.*

Some years ago Lord Ilchester distributed seeds of a *Beschorneria*, which was considered to be different from the only described one, *B. tubiflora* (see our Tab. 4642), and which we have since understood bears the name of *B. yuccoides* in gardens. A plant of this was in perfection in the succulent-house of our friend Mr. Wilson Saunders at the same time with the *Yucca canaliculata*, given in the present number. The accompanying figure will show better than words can do how very different this is from *B. tubiflora*. It is indeed a most striking plant, distinguished by the long, slender, coral-like scape and panicle, with its gracefully slender drooping branches, of the same colour, bearing racemes of large pendent green flowers, in shape not much unlike those of some long-flowered *Fuchsia*, but of a dark yellow-green colour, tinged with red. It is a highly ornamental plant, and continues a long time in blossom. It requires a cool greenhouse, and is probably a native of Mexico.

Descr. *Leaves* radical (but the falling away of the older ones at length causes an imperfect stem to appear, thick and short), a foot to a foot and a half long, subcoriaceous, glaucous-green, lanceolate, narrowed below the middle, dilated at the very base, the apex pungently and narrow-acuminated, asperous beneath and at the margin. *Scape* three to four feet long, the upper half forming a *panicle* of slender drooping (as it were from the weight

of the flowers) branches, of a rich coral-red colour. *Bracteas* membranaceous, lanceolate, acuminate, deep rose-colour. *Flowers* pendent, nearly three inches long, including the inferior *ovary*, which is cylindrical, narrower than the perianth. *Sepals* linear-oblong, dark-green, with a yellow tinge, straight, approximating so as to form a *tube*. *Stamens* scarcely exserted. *Filaments* subulate. *Anthers* linear. *Style* filiform, dilated, and trisulcate at the base.

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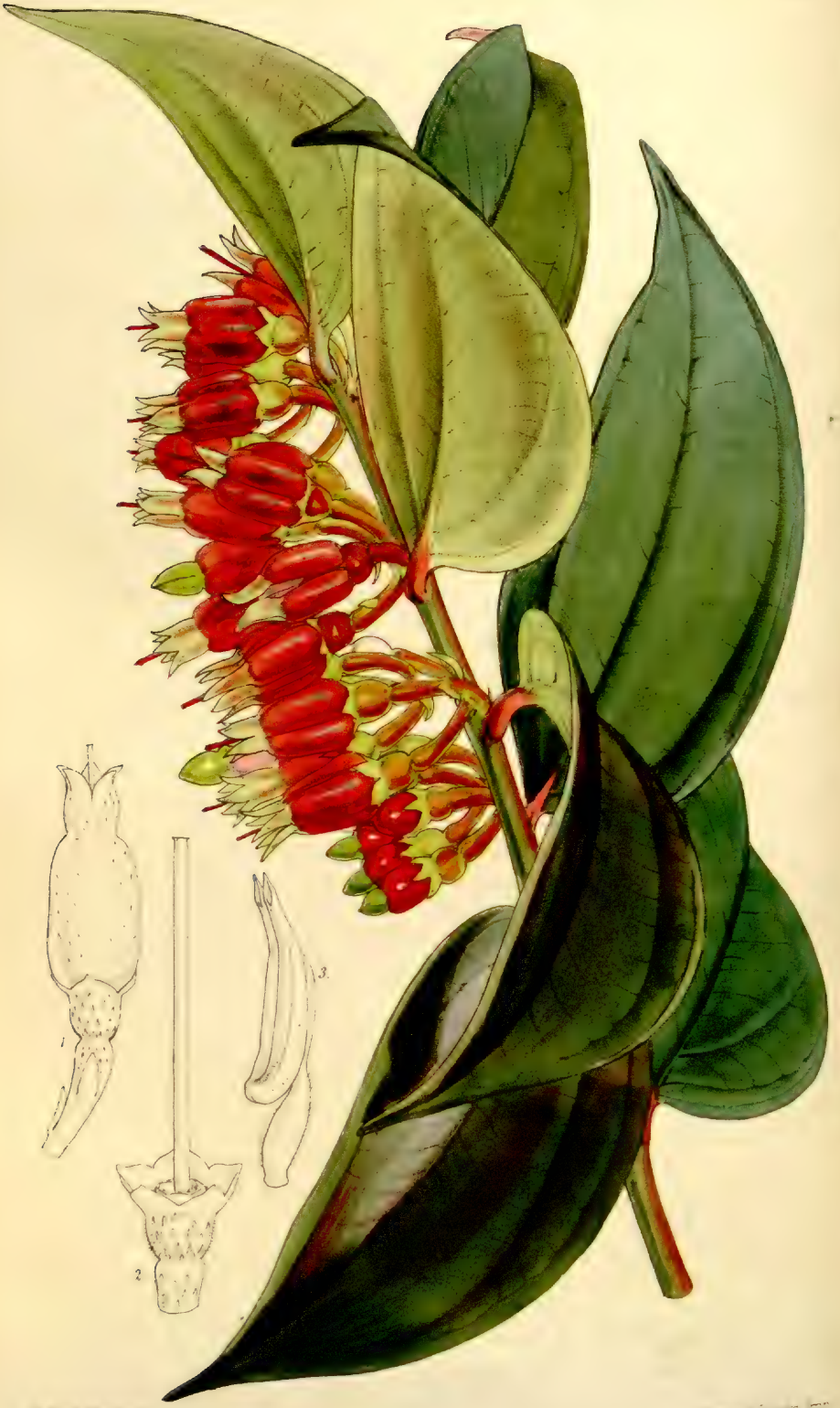
Fig. 1. Very much reduced figure of a flowering plant. 2. Leaf. 3. Portion of a panicle:—*nat. size.* 4. Stamen. 5. Pistil:—*magnified.*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# Tab. 5204.

## PSAMMISIA penduliflora.

*Pendulous-flowered Psammisia.*

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Nat. Ord. Ericaceæ.—Decandria Monogynia.

*Gen. Char.* Psammisia. *Calyx* urceolato-campanulatus; *limbo* cupulæformi, breviter et late 5-dentato. *Corolla* tubulosa, basi ventricosa, *limbo* 5-fido. *Stamina* 10, distincta, inclusa, æquilonga. *Antheræ* biloculares, oblongo-lineares, apice breviter bifidæ, dorso supra medium affixæ, basi liberæ, scabræ, alternatim latiores, subinde ad apicem connectivi dentibus 2 divergentibus auctæ, angustiores semper edentulæ; *tubulis* lævibus, anthera ipsa brevioribus, apice foramine dehiscentibus. *Filamenta* lata, brevia. *Ovarium* 5-loculare, loculis multi-ovulatis. *Stylus* filiformis, strictus, plerumque exsertus. *Stigma* obtusum. *Bacca* coriacea, subexsucca, 5-locularis, calycis limbo cupulæformi 5-dentato coronata, loculis polyspermis; *placentis* in axi centrali versus apicem sitis, pendulis.—Frutices *Americani, ramosi;* foliis *coriaceis*, 3–5–7-*plinerviis, magnis;* racemis *axillaribus, robustis, corymbosis, solitariis, tegmentis destitutis;* pedicellis *robustis, sensim incrassatis, apice articulatis bractea parva squamæformi suffultis;* calycis limbo *cupulæformi, coriaceo. Kl.*

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Psammisia *penduliflora;* ramis teretibus, foliis breviter petiolatis ellipticis acuminatis subdistichis glabris 3–5-plinerviis, racemis axillaribus subcorymbosis pendulis, corolla coccinea infra apicem subito contracta viridescente.

Psammisia penduliflora. *Kl. in Linnæa, v.* 24. *p.* 43. *Decaisne, in Revue Horticole,* 1854, *p.* 5. *t.* 1.

Thibaudia penduliflora. *De Cand. Prodr. v.* 7. *p.* 562.

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Most of the South American *Vacciniaceæ* which have been arranged under *Thibaudia*, are considered by Dr. Klotzsch to be sufficiently distinct to constitute a separate genus, to which he has given the name of *Psammisia* (from Psammis, a king of Egypt): and he enumerates no less than seventeen species, of which one, *Ps. Hookeriana*, Kl., has been figured in this work, Tab. 4344, under the name of *Thibaudia Pichinchensis*, var. *β glabra*, Hook. The species are eminently handsome, and worthy of cultivation in a warm greenhouse. We owe the possession of our present plant to Mr. Linden, who received it from the mountains of Caraccas. In some collections it bears the

name of *Ps. sclerophylla*, but that is a very different species, and is figured in the 'Flore des Serres,' tom. viii. t. 825.

Descr. An evergreen *shrub*, with terete, green *branches*, tinged with red. *Leaves* about four inches long, glossy-green, shortly petioled, elliptical, very entire, much and rather finely acuminated, subdistichous, the base obtuse, three- to five-nerved, faintly reticulated between the almost parallel nerves, dark glossy-green, the older ones tinged with brown. *Racemes* solitary, axillary, many-flowered, secund, and drooping. *Pedicels* thick, clavate, eventually red, with two small bracteas. *Calyx* with its base articulated upon the pedicel, scabrous; *tube* globose, *limb* of five broad acute segments. *Corolla* large, rich scarlet, pitcher-shaped, suddenly contracted into a greenish five-lobed apex. *Stamens* ten, included. *Ovary* incorporated with the calyx-tube: an annular disc surrounding the base of the filiform *style*, which is a little longer than the corolla. *Stigma* obtuse.

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Fig. 1. Flower. 2. Calyx and pistil. 3. Stamens:—*magnified.*

W.Fitch,del. et lith.

Vincent Brooks, imp.

# Tab. 5205.

## CRINUM giganteum.

*Large-flowered Crinum, or Cape-Coast Lily.*

Nat. Ord. Amaryllideæ.—Hexandria Monogynia.

*Gen. Char. Perigonium* superum corollaceum; *tubo* elongato, gracili; *fauce* haud ampliata; *limbo* 6-partito; *laciniis* subæqualibus, multinerviis, erectis, patentibus vel reflexis. *Stamina* 6, summo tubo inserta, elongata. *Filamenta* filiformia, patentia vel declinata. *Antheræ* lineares, versatiles. *Ovarium* inferum triloculare; *ovula* plurima, in loculorum angulo centrali affixa, biseriata, horizontalia, anatropa. *Columna stylina* filiformis, erecta vel inclinata. *Stigma* obtusum, obsolete trilobum vel trifidum. *Capsula* membranacea, depresso-sphærica, tri- vel abortu 1–2-locularis, irregulariter rumpens. *Semina* pauca vel solitaria, angulato-subglobosa, sæpe in bulbillos carnosos mutata.—Herbæ *bulbiferæ, scapigeræ;* bulbo *tunicato, columnari vel sphærico.* Folia *multifaria.* Scapus *solidus, umbellato-multiflorus.* Spatha *diphylla.* Flores *pedicellati vel sessiles,* bracteis *linearibus ramentaceis interstincti. Endl.*

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Crinum *giganteum;* sessiliflorum, foliis plurimis oblongo-lingulatis obsolete striatis undulatis margine scabris, floris limbo nutante obsolete bilabiato tubo breviore.

Crinum giganteum. *Andr. Bot. Repos. t.* 169. *Redouté, Liliac. t.* 181. *Herbert, in Bot. Mag. sub fol.* 2121. *Schultz, Syst. v.* 7. *p.* 854. *Kunth, Enum. v.* 5. *p.* 569.

Crinum petiolatum. *Herb. App. p.* 22. Var. 1. spectabile, *Herbert, Amaryl. p.* 260.

Amaryllis gigantea. *Ait. Hort. Kew. ed.* 2. *p.* 226. *Gawl. in Journ. of Sc. v.* 3. *p.* 368. *t.* 44. *f.* 8, 14, 15.

Amaryllis ornata, *β. Gawl. in Bot. Mag. t.* 923 (*leaves very unlike those of our plant*).

Amaryllis candida. *Traut. Tabul. t.* 488.

Amaryllis latifolia. *Lam. Encycl. v.* 1. *p.* 41.

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This fine plant has been long known in England, but much misunderstood; and no figure (though there are not a few) has yet done justice to the large and delicate texture of the flowers; among the worst of the figures is that given by Mr. Gawler, in this work, under the name of *Amaryllis ornata, β.* It is a native of Sierra Leone, and no doubt other parts of the coast of tropical Western Africa. Bulbs were sent to us recently by

Capt. Babington, from Sierra Leone. The late Mr. Herbert can hardly have seen a fair or well-cultivated specimen or he would not have cavilled at the original name and changed it to *C. petiolatum*.

Descr. *Bulb* very large, a fully grown one being as big as a child's head. *Leaves* one to two and even three feet long, four inches wide, lingulate, broadest above the middle, obsoletely striated, but having a strong central rib and two depressed lines between the costa and margin. *Scape* two to three feet long, plano-convex, erect. *Spatha* two-valved, ligulate. *Umbel* of from five to thirteen sessile flowers. Tube of the perianth eight to nine inches long, terete, green. *Flowers* six to seven inches across, inclined. *Sepals* broad, ovato-concave, white, tinged with yellow-green externally. *Filaments* four to five inches long, declined, then ascending. *Anthers* one inch long, dark-purple. *Ovary* oval. *Style* filiform, curved upwards. *Stigma* obscurely three-lobed.

# Tab. 5206.

## ERODIUM PELARGONIIFLORUM.

*Pelargonium-flowered Stork's-bill.*

Nat. Ord. Geraniaceæ.—Monadelphia Pentandria.

*Gen. Char. Sepala* 5, æqualia, in calcar seu tubum nectariferum nulla producta. *Petala* 5, regularia aut irregularia. *Stamina* decem, filamentis basi monadelphis, 5 antheriferis, 5 alternis sterilibus. *Glandulæ* 5 ad basin staminum sterilium. *Carpellorum aristæ* intus barbatæ, demum elastice spiraliter tortæ.—Herbæ *aut* suffrutices, foliis *variis*, pedunculis *sæpius multi-rarissime* 1-*floris. De Cand.*

Erodium *pelargoniiflorum ;* perenne viride totum pilis papillaribus nitidis conspersum viscidulum, rhizomate squamis petiolaribus et stipularibus vetustis vestito, caulibus fragilibus adscendentibus elongatis ramosis, foliis teneris radicalibus longe petiolatis ovato-cordatis obsolete 3-lobis indivisisque acutiuscule dentatis, stipulis bracteisque oblongis oblonge acuminatis valde hispidis albo-membranaceis, pedunculis umbellatim 8–10-floris, pedicellis longe hispidis flore triplo longioribus, sepalis oblongis albis viridi-3–5-lineatis ad costas longe papilloso-ciliatis mucrone eis dimidio breviori terminatis, petalis obovatis basi subciliatis albis 2 inferioribus macula purpurea in 5 lineas ramulosas superne extensa insignitis, carpellis parce et adpresse hirsutis, cauda adpresse hirsuta eis quadruplo longiori. *Boiss.*

Erodium pelargoniiflorum. *Boiss. et Heldr. in Pl. Exsic. Anatol.* 1846; *et in Diagnos. Plant. Orient. Nov. v.* 8. *p.* 118. *Walp. Annal. v.* 2. *p.* 234. *v.* 4. *p.* 395. *Regel's Garten-Flora, v.* 1. *p.* 195. *t.* 19.

From the collection of W. Wilson Saunders, Esq., Hillfield, Reigate, where the shelves of a very cool, airy greenhouse were enlivened by its sparkling blossoms. In the days when the *Geraniaceæ* were cultivated extensively as botanical objects, this would have been very much prized; but that time is gone by, and their place is taken by the "General Tom Thumb," the "Golden Chain," and others, which render our flower-beds, in summer, objects of such universal admiration. The present is a recently-discovered species, by Heldreich, of the *Erodium* genus, in Anatolia, growing on shady rocks and among caves between Karaman and Ermenek, at an elevation of 3,000 feet above the level of the sea. It may therefore be expected to suc-

ceed in the open air in summer, but at its period of rest in the winter the roots will require protection. The above specific character of Boissier may well be considered to serve for a description also.

Fig. 1. Lower leaf, showing the stipules,—*nat. size.* 2. Flower, from which the petals are removed. 3. Pistil:—*magnified.*

W. Fitch del. et lith.

Vincent Brooks Imp.

## Tab. 5207.

# CISSUS velutinus.

*Velvety-leaved Cissus.*

Nat. Ord. Ampelideæ.—Tetrandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4763.)

Cissus *velutinus*; caule scandente angulato ruberrimo, foliis petiolatis cordato-oblongis obtuse acuminatis denticulatis supra purpureo-viridibus ad venis sæpissime albo pictis, subtus eximie sanguineis, pedunculis petiolo duplo triplove longioribus cymisque laxis ruberrimis.

Cissus velutinus. *Linden, Cat.*

In specific character the present species nearly approaches the *Cissus discolor* of Blume, to which, perhaps, it is too nearly related, and is scarcely inferior to it in beauty. It wants, indeed, the warm, deep purple glow which prevails in the young foliage of the latter plant: but, on the other hand, the inflorescence is larger in the present species, and of the same coral-red all over, instead of the cymes and flowers being white, as in *C. discolor*. The leaves, though frequently marked with white lines following the course of the veins, often lose them in age; and they are never spotted with transverse blotches, so conspicuous in *discolor*. Of its native country we are ignorant; probably the Malay Islands. It flowers at various seasons of the year in a warm stove, and readily increases by cuttings. The specific name is better merited in the young shoots of the plant, which are clothed with a soft velvety pubescence, but which is deciduous, and in age the foliage is generally quite glabrous.

Descr. Habit and mode of growth entirely that of *C. discolor* (see our Tab. 4763). *Leaves* the same in form, but considerably different in colour and markings. The deep purple hue is almost entirely wanting, and the white blotches of *C. discolor* give place to broad lines of white following the course of the costa, veins, and veinlets, yet becoming obsolete in age. The chief distinction resides in the length of the *peduncle*, which is twice at least that of the other in the larger and laxer *cyme*, and in the *flowers* being of the same intense coral-red as the pe-

duncle, and as that of the stem, the cirrhi, and the under side of the foliage.

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Fig. 1. Flower, with the petals spread open. 2. The same, from which the petals have fallen. 3. Ovary, cut through vertically:—*magnified.*

W Fitch, del et lith

Vincent Brooks Imp

# Tab. 5208.

## ANŒCTOCHILUS setaceus, var. *inornatus*.

*Fringed Anœctochilus; var.*

Nat. Ord. Orchideæ.—Gynandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4123.)

Anœctochilus *setaceus;* subrepens, foliis rotundato-ovatis velutinis plerumque aureo-reticulatis subtus discoloribus, sepalis extus ovariisque glanduloso-hirsutis, labello medio ad marginem longe fimbriato apice bilobo, lobis oblongis obtusis patentibus, sacco labelli apice bifido.

*α. aureo-reticulatus;* caule bracteisque subcarneo, foliis supra pulcherrime aureo-reticulatis.

Anœctochilus setaceus. *Blume, Bijdr. v.* 1. *p.* 412. *Tabellen*, 15. *Lindl. Bot. Reg. t.* 2010. *Gen. et Sp. Orchid. p.* 499. *Hook. Bot. Mag. t.* 4123. *Wight, Ic. Ind. Or. v.* 5. *t.* 1731.

Chrysobaphus Roxburgii. *Wall. Tent. Fl. Nepal. t.* 17.

Folium petolatum. *Rumph. Amb. v.* 6. *p.* 93. *t.* 41. *f.* 3.

*β. inornatus;* caule bracteisque viridibus, foliis supra purpureo-cupreis (venis aureis omnino obsoletis). (Tab. Nostr. 5208.)

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The ordinary state of this plant, with its beautiful golden network on the upper side of the leaves, is familiar to all cultivators of rare Orchideous plants, as well as to such as frequent the gardens of those that are curious in them, for it is one of the most interesting of the family; a native, too, of very extensive regions in the East Indies, both on the continent and in the islands. In Ceylon its foliage is so attractive that the plant is known by the native name of *Wana Rajah*, or King of the Woods. Rumphius, in Herb. Amboyn, accurately describes the leaves as "cordiformia quasi, crassiuscula sed flaccida, mollia ad tactum instar serici densioris, ac quodammodo splendentia, quam elegantissime picta, læte rubentibus et intricatis flavis lineis distincta, ita ut cancellata sint, atque ignotos referant characteres, ac si penicillo a perito pictore picta essent, inferius folia rubent, seu purpurascunt sine characteribus."

But this is not always the condition of the foliage. In a valuable case of plants lately received from the Botanic Garden of

Java was the present remarkable variety, in which the leaves, though of a rich coppery hue and velvety character, are wholly destitute of reticulations. The structure of the flower is the same in both.

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Fig. 1. Side view of a flower. 2. Front view of a flower:—*magnified*.

W Fitch del et lith

Vincent Brooks, Imp.

## Tab. 5209.

# SALVIA scabiosæfolia.

*Scabious-leaved Sage.*

Nat. Ord. Labiatæ.—Diandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4874.)

Salvia (§ Eusphace) *scabiosæfolia;* caule herbaceo, ramis diffusis piloso-lanatis, foliis pinnatisectis segmentis subgeminis, integris bisectis vel pinnatisectis oblongis linearibusve acutis integerrimis, racemis simplicibus, verticillastris 6–10-floris distinctis, foliis floralibus lanceolatis ovatis vel ovato-rotundatis acuminatis, calycibus ample campanulatis striatis villosis, labio superiore brevissime trideutato, inferiore bifido, dentibus ovatis acutis, corollis calyce duplo longioribus, labio superiore bifido. *Benth.*

Salvia scabiosæfolia. *Lam. Journ. Hist. Nat. n.* 14. *p.* 44. *t.* 27.

S. pinifolia. *Pall. Ind. Taur.*

S. Tauricæ. *Habl. Phys. Beschr. Taur. p.* 207.

S. scabrosa. *Pers. Syn. Pl. v.* 1. *p.* 29.

S. Habliziana. *Willd. in Schrad. Journ. Bot. v.* 1. *p.* 289. *t.* 2. *Jacq. Fil. Ecl. v.* 1. *p.* 9. *t.* 3. *Bot. Mag. t.* 1429. *Ait. Hort. Kew. ed.* 2. *v.* 1. *p.* 53.

S. vulnerariæfolia. *Willd. Sp. Pl. v.* 1. *p.* 149.

A remarkable-looking Sage, now rare in our gardens, but introduced from Tauria into the gardens of Kew as early as 1798, by John Bell, Esq., and published under the name of *S. Habliziana*. It was not till after our plate was engraved that I discovered that this plant, recently received under the correct name of *S. scabiosæfolia*, was the same as the *Habliziana* already given in an early volume of this work, as above quoted. Our subscribers, however, will here find a more accurate representation, with analysis; and we have profited by Mr. Bentham's synonymy and remarks in his monograph of the extensive genus in De Candolle's 'Prodromus.'

Descr. "*Stems* diffuse, one to one and a half foot high, patently hairy or woolly at the base, subglabrous above, often purplish. *Leaves* numerous, sometimes almost glabrous, often hoary and pilose; *segments* three to five pair, often geminate or ternate, but opposite, and thence apparently whorled. *Raceme* four to

six inches or more long. *Lower floral leaves* ovato-lanceolate, longer than the calyx; *superior* ones broader and shorter. *Fructiferous calyces* seven to eight lines long, shortly pedicellate, erect, softly piloso-pubescent, with abbreviated teeth. *Corollæ* beautiful white; the *tube* within furnished with a hairy ring. *Style* shortly inserted. The species varies with the leaves often very narrow and more glabrous, the verticillastra sometimes all six-flowered, sometimes ten- or more flowered; also in the size and form of the floral leaves." *Benth. l. c.*

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Fig. 1. Flower. 2. Stamen. 3. Pistil and hypogynous gland:—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

# Tab. 5210.

## ALOE albo-cincta.

*White-margined Aloe.*

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Nat. Ord. Asphodeleæ.—Hexandria Monogynia.

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*Gen. Char. Corolla* tubuloso-6-fida vel hexapetalo-partita, carnosula, basi nectarifera, in tubum connivens; *limbo* regulari, patulo, vel recurvo-bilabiato; *laciniis* ligulatis, exterioribus interiores æquales vel longiores imbricatim obtegentibus. *Stamina* hypogyna, assurgentia, tubo æqualia, vel exserta. *Stylus* exsertus v. subnullus, trisulcus. *Stigma* simplex, v. 3, minuta, replicata. *Capsula* membranacea, scariosa, rotunde vel acute trigona, 3-locularis, 3-valvis, *valvis* medio septigeris. *Semina* numerosa, biserialia, subrotundo-complanata, v. trigona, alata angulosave. *Gawl.*

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Aloe *albo-cincta;* caule 2–3-pedali subarboreo crasso simplici, foliis magnis 12–16-uncialibus lato-lanceolatis sensim acuminatis crassis integerrimis cartilagineo-rubro- v. albo-marginatis glaucis obscure striatis lineari-maculatisque, pedunculo seu scapo subbipedali apice paniculatim patenti-cymoso, bracteis ad basin ramorum, floribus racemosis omnibus etiam ante anthesin pendulis clavatis rubro-aurantiacis basi ventricosis.

Aloe albo-cincta. *Haworth, Suppl. Pl. Succul. p.* 43. *Rœm. et Sch. Syst. Veget. v.* 7. *p.* 698. *Kth. Enum. Plant. v.* 4. *p.* 525.

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If the African Aloes have lost caste among cultivators of the present day, there are few, we think, who could have seen the present species, as we saw it in the summer of the present year, in Mr. Wilson Saunders's succulent-house at Hillfield, who would not deem it highly deserving of a place in their greenhouse. It is the handsomest we know of the genus by far, striking in its foliage, and still more so in its drooping flowers, which form a spreading, compound, almost umbellate cyme, of a rich yellowish-red colour. Our friend has long had it in cultivation under the name here given, and it seems quite correctly so; but this is the first instance known of the flowering of the plant. Had Haworth been acquainted with the inflorescence, he would never have made the remark, "Fortasse est mere junior *A. striatæ* (A. paniculatæ, *Jacq.*)." Mr. Wilson Saunders

has lately received young plants from his collector Mr. Cooper, found in Algoa Bay.

Descr. The *stem* forms a cylindrical *trunk* two and a half feet high, and stout. *Leaves* few, spreading, a foot to eighteen inches long, and six inches wide, almost an inch thick at the base, quite entire at the margin, and there cartilaginous and white or tinged with red. The green of a glaucous hue, faintly striated, and marked with obscure, whitish, elongated spots. *Scape* or *peduncle* elongated, compressed, panicled at the top, bearing numerous *racemes*, arranged in a broad, flattened *cyme*, of drooping *flowers*, an inch and a quarter long clavate, and singularly inflato-globose at the base. *Stamens* scarcely exserted. *Ovary* oblong; *style* as long as the stamens; *stigma* obtuse.

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Fig. 1. Flowering plant, much reduced. 2. Apex of a leaf. 3. Portion of a panicle:—*nat. size.* 4. Flower. 5. Pistil:—*magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

# Tab. 5211.

## SONCHUS radicatus.

*Long-rooted Sow-thistle.*

Nat. Ord. Compositæ.—Syngenesia Æqualis.

*Gen. Char. Capitulum* multi- vel pauci-florum. *Involucrum* imbricatum, basi ventricosum demumque spongiosum. *Receptaculum* nudum. *Achænia* compresso-tetragona, ovato-oblonga, longitudinaliter striata, plerumque transverse muricato-granulata, rarius glabra, alutacea, brunnea v. nigrescentia, erostrata, vel rostro brevi robusto terminata, basi plerumque prominentiis 4 notata. *Pappus* persistens v. caducus; *setis* vero basi non in annulum ut in *Picridio* concretis, vel singulis vel pluribus basi connatis, niveis, mollibus, digitis facile adhærentibus, distanter breve antrorso-extrorso-denticulatis v. subsimplicibus (saltem sub lente, magis auctis vero denticulis confertioribus munitis quam setæ crassiores), inæqualibus, intimis nempe pluribus, cæteris crassioribus, rarissime subæqualibus. *Schultz.*

Sonchus *radicatus;* fruticosus glaber glaucus, foliis fere omnibus radicalibus lyratis lobis rotundatis superficialiter et minute sinuatis, caulinis paucis cordatis, auriculis rotundatis, pedicellis subnudis, involucri subimbricati squamis exterioribus ovatis, interioribus linearibus, receptaculo favoso, acheniis brunneis glabris striatis, pappi subuniserialis caduci setis falcatis. *Webb.*

Sonchus radicatus. *Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 116; *ed.* 2. *v.* 4. *p.* 436. *Willd. Sp. Pl. v.* 3. *p.* 1511. *De Cand. Prodr. v.* 7. *p.* 188. *Webb, Phytogr. Canar. v.* 3. *p.* 436. *t.* 128.

No less than sixteen species of *Sonchus* or *Sow-thistle*, besides the present one, inhabit the Canary Islands. But we must not judge of them from the weedy nature of our British species, for in the subgenus *Dendrosonchus* of Mr. Webb, to which our plant belongs, are some which are described as arboreous, and which, from their size and peculiarity of form, constitute striking features in the landscape. Our present species is of a much humbler character, yet shrubby, and remarkable for the deeply lyrate leaves, very hoary, or as it were frosted with short down, and for the large size of the flowers. *S. radicatus* was introduced into Kew Gardens by Masson in 1780. Plants were reared, from seed sent by Mr. Webb, in his garden at Milford; and it has been, through Dr. Bolle, very recently imported by

Mr. Wilson Saunders, in whose greenhouse at Hillfield our drawing was made by Mr. Fitch, in July, 1860.

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Our Plate represents the apex of a stem, with leaves and a portion of a flowering peduncle,—*nat. size.* Fig. 1. Floret. 2. Apex of a style, and stigmas. 3. Hairs of the pappus:—*magnified.*

W Fitch del et lith.

Vincent Brooks Imp

## Tab. 5212.

# PHALÆNOPSIS rosea.

*Rose-coloured Phalænopsis.*

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Nat. Ord. Orchideæ.—Gynandria Monandria.

*Gen. Char.* (*Vide supra*, Tab. 4297.)

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Phalænopsis *rosea*; foliis oblongis coriaceis acutis apice recurvis, scapo cernuo ramoso tortuoso subclavato, floribus subcarnosis, sepalis ovatis, petalis ovalibus paulo latioribus, labello ascendente tripartito, laciniis lateralibus linearispathulatis lunatis, intermedia crista lunata rotundata depressa emarginata (cirrhis nullis). *Lindl.*

Phalænopsis rosea. *Lindl. in Gard. Chron.* 1848, *p.* 671 (*with woodcut of flower*), *and in Paxt. Fl. Gard. v.* 2. *t.* 72.

Stauroglottis equestris. *Schauer, in Act. Acad. Nat. Cur. v.* 19. *Suppl. p.* 432.

Phalænopsis equestris. *Reich. Fil. in Linnæa*, 1849, *p.* 864.

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The name *Phalænopsis*, from our long familiarity with the well-known species *P. amabilis* (see our Tab. 4297), and its close affinity with *P. grandiflora* (Tab. 5184), which we have lately ventured to consider scarcely different from *amabilis*, leads the mind to flowers of large size and of the purest whiteness. To those who thus form their ideas the present species will prove a disappointment. The flowers are small, the whites are not clear white, and the rose tints are not bright-rose. The organic structure of the flower is however the same, wanting indeed the cirrhi to the lip, which is so remarkable in them; and the foliage bears a great resemblance to that of *P. amabilis*. It was imported from Manilla into England, by Messrs. Veitch and Sons, of the Exeter and Chelsea Nurseries, through their zealous collector, Mr. Thomas Lobb, who describes the spike of flowers from twelve to eighteen inches long. It does not appear to attain such a size with us. We are indebted to Mr. R. Bullen, gardener to John Butler, Esq., of Woolwich, for the opportunity of figuring this still rare species from that gentleman's collection.

Descr. From a very short *stem* or *caudex*, attached to its place of growth by a few stout vermicular fleshy fibres, there arise a few (three to four) oblong, thick coriaceo-carnose *leaves*,

which spread in two opposite directions; these are of a dark, full-green colour, and unequally notched at the apex. *Scape* springing from the base of the short stem and from the axil formed by the persistent base of a fallen leaf, dark purplish-black, terete, slightly thickened upwards, bearing a few, remote, small, appressed *bracts;* this scape is about a foot long, and is terminated by a *spike* or *raceme* of twelve or fourteen fleshy *flowers,* the largest of them not an inch and a half in their broadest diameter. *Buds* ovate, greenish-yellow, with a red line at the suture of the sepals. *Sepals* and *petals* patent, nearly uniform in size and shape, subovate, obtuse, and in colour white, tinged with pink in the centre. *Lip* rose-colour, scarcely larger than the sepals, spreading, three-lobed: lateral lobes small, lunate; middle one exactly ovate; at its base is a downy, fleshy, prominent, furrowed gland. *Pollen-masses* two, attached to a long *caudicle,* with a gland at its base.

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Fig. 1. Side view of column and lip. 2. Front view of lip. 3. Pollen-masses :—*magnified.*

W Fitch, del et lith.

Vincent Brooks Imp

# Tab. 5213.

## AGAVE yuccæfolia.

*Yucca-leaved Agave.*

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Nat. Ord. Amaryllidaceæ.—Hexandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4934.)

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Agave *yuccæfolia;* trunco erecto brevi, foliis glaucis coriaceo-carnosis lorato-attenuatis supra canaliculato-concavis subtus obtuse carinatis marginibus cartilagineo-serrulatis, exterioribus recurvis, scapo longissimo (20-pedali) bracteato, spica terminali solitaria cylindrica multiflora, perianthio viridi, tubo medio contracto, limbi lobis patentissimis, staminibus corolla duplo longioribus.

Agave yuccæfolia. *Red. Pl. Liliac. v.* 6. *p.* 328. *t.* 328 *et* 329. *Haw. Suppl. p.* 41. *Willd. Enum. Suppl. p.* 19. *Schult. Syst. Veget. v.* 7. *p.* 725. *Kth Enum. Pl. v.* 5. *p.* 830.

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This very distinct species of *Agave*, long cultivated in the Royal Gardens of Kew, but whose native country is hitherto unrecorded, was received by us from the Rio del Monte district, Mexico, and is remarkable for the great length of the flower-stem or scape in proportion to the rest of the plant,—so tall, that long before the flowers began to expand, we were obliged to remove the plant from a greenhouse fifteen feet high to a loftier building, and support the continually elongating scape against the wall. The flowers did not expand till this had attained a height of twenty feet. The distance of the flowers from the spectator renders them inconspicuous; but when more closely inspected, they are by no means insignificantly small, of a bright yellow-green, with much exserted yellow large stamens, whose filaments and anthers are partially tinged with red. Its flowers are produced in a cool greenhouse, in the summer months.

Descr. *Stem* or *caudex* in our plant short, erect, about two to three inches thick, scarred with the persistent bases of fallen foliage. *Leaves* numerous, outer and older ones curved, inner and younger ones more erect, one to one and a half foot long, nearly two inches wide in the broadest part, lorato-acuminate, coriaceo-carnose, glaucous, canaliculato-concave above, very ob-

tusely keeled beneath, the margin cartilaginous and minutely denticulate; *scape* rising from the centre of the foliage, gradually elongating till it has attained a height of twenty feet, one and a half or two inches diameter, erect, but not strict, clothed all the way with subulate, leafy *scales*, the lowest ones passing gradually into leaves. *Spike* cylindrical, terminal, oblong, simple, six to eight inches long. *Flowers* often two together, numerous, erect, subtended by small bracts. *Perianth* about an inch long, infundibuliform, green: the *tube* a little contracted above the ovary; *limb* of six, spreading, oval, obtuse segments. *Stamens* inserted some way down the tube, yellow, tinged with red: *filaments* twice as long as the perianth, stout, erect; *anthers* large, versatile.

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Fig. 1. Much reduced flowering-plant. 2. Portion of a leaf. 3. A flowering spike:—*nat. size.*

W. Fitch, del et lith.

Vincent Brooks, Imp

## Tab. 5214.

# ONCIDIUM PHYMATOCHILUM.

*Warted-lipped Oncidium.*

Nat. Ord. Orchideæ.—Gynandria Monandria.

*Gen. Char.* (*Vide supra*, Tab. 4824.)

Oncidium *phymatochilum;* racemo subpaniculato, sepalis linearibus acuminatis apice recurvis lateralibus longissimis, labelli auriculis convexis dilatatis crenatis, lobo intermedio unguiculato ovato acuminato basi multituberculato, columna alis semicordatis acuminatis. *Lindl.*

Oncidium phymatochilum. *Lindl. in Paxton's Fl. Gard. v.* 1. *p.* 78. *n.* 123, *and under t.* 18 (*woodcut of flowers only*), *and in Folia Orchidacea, Oncidium, p.* 54. *n.* 191.

The present elegant and delicate species of *Oncidium* seems to have been introduced nearly at the same time (1847) both by the late Mr. Clowes and Messrs. Loddiges, and, it is suspected, from Mexico; but of that there is no certainty. It is rather a free flowerer in the stove, and our drawing was made at Kew from Mr. Clowes's plant, in May, 1860. The lip is pure white, the rest of the flower pale yellow-green, spotted with orange-red on the upper side, chocolate-brown beneath.

Descr. *Pseudobulb* broad-fusiform, four to five inches long, purplish-brown, somewhat compressed, having at the base four, large, distichous, imbricating, carinated, and subequitant *scales*, of the same colour, the longest of them the length of the pseudobulb. This latter bears a large, membranaceous, solitary, obovato-lanceolate, acute *leaf* from its apex, twelve to fourteen inches long, and three inches broad, striated, with prominent veins on the under side. *Scape* rather slender, a foot and more long, terete, green, arising from the base of the pseudobulb, and within the larger scale, bracteated with appressed, green, acuminated scales. *Panicle* more than a foot long, pendent, slightly compound; *main rachis* zigzag, slender. *Flowers* moderately numerous. *Petals* and *sepals* nearly uniform in shape and colour, linear-subulate, very delicate and flaccid, sometimes a little twisted, the two side sepals the longest, and subfalcate, all of

them pale-green, with blotches of deep-orange on the upper side, dull chocolate-colour on the under. *Lip* moderately large, but much shorter than the sepals and petals, trowel-shaped, three-lobed, two *lateral lobes* forming small, spreading, rounded auricles; there is a contraction and thickening of the substance between these lobes and the terminal lobe, and that portion is tubercularly crested, yellow, spotted with orange: *terminal lobe* broad-ovate, finely acuminated, spotless. *Column* small and narrow, its auricles semicordate, and often cut or laciniated. *Anther-case* conical.

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Fig. 1. Column and lip,—*magnified.*

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W. Fitch, del. et lith.

Vincent Brooks, Imp.

# Tab. 5215.

## DIANTHUS Seguieri; var. *Caucasicus*.

*Seguier's Pink; Caucasian Var.*

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Nat. Ord. Caryophylleæ.—Decandria Digynia.

*Gen. Char.* *Calyx* tubulosus, 5-dentatus, basi squamis 2–4 oppositis imbricatis. *Petala* 5, longe unguiculata. *Stamina* 10. *Styli* 2. *Capsula* 1-locularis. *Semina* compressa, hinc convexa, inde concava, peltata. *Embryo* vix curvatus.

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Dianthus (§ Caryophyllum) *Seguieri;* caule superne bifido, floribus subfasciculato-aggregatis v. paniculatis, floribus laxe dispositis, squamis calycinis membranaceis ovatis (præsertim inferioribus) abrupte in acumen lanceolato-subulatum tubum æquans vel eodem duplo triplove brevius alternatis, bracteis lanceolatis, foliis oblongo-linearibus linearibusve attenuato-acuminatis sub-3–5-nerviis cauleque scabris glabrisve, vaginis folii latitudinem subæquantibus. *Ledeb.*

Dianthus Seguieri. *Vill. Delph. v.* 3. *p.* 594. *Koch, Syn. p.* 96. *Ledeb. Fl. Ross. v.* 1. *p.* 277.

α. floribus fasciculato-aggregatis. *Ledeb. l. c.*

D. collinus, *Waldst. et Kit. Pl. Rar. Hung. v.* 1. *p.* 36. *t.* 8. D. collinus ruthenicus, *Fisch. Cat. Hort. Gorenk.* 1808, *p.* 26. D. asper, *Willd. En. Hort. Berol. p.* 466. *De Cand. Prodr. v.* 1. *p.* 357. D. Fischeri, *Spreng. Cat. Hort. Hal.* 1810. *De Cand. Prodr. v.* 1. *p.* 365.

β. floribus brevius pedunculatis approximatis non vero fasciculato-aggregatis. *Ledeb. l. c.*

D. montanus, *Bieb. Fl. Taur. Caucas. v.* 1. *p.* 328, *v.* 3. *p.* 299. *De Cand. Prodr. v.* 1. *p.* 359. D. discolor, *Sims, Bot. Mag. t.* 1161. D. collinus Caucasicus, *Fisch. Cat. Hort. Gorenk.* 1808, *p.* 96.

γ. floribus solitariis longius pedunculatis laxe dispositis paniculatis. *Ledeb. l. c.*

α. squamis calycinis tubum dimidium superantibus v. totum æquantibus. *Ledeb. l. c. p.* 278 (*under this Ledebour includes the following names with references*).

D. ruthenicus, *Rœm. in Poiret, Encycl.* D. Caucaseus, *Sims, Bot. Mag. t.* 795? D. Caucasicus, *De Cand. Prodr. v.* 1. *p.* 363. *Bieberst. Fl. Taur. Caucas. v.* 1. *pp.* 227, 299. *C. A. Meyer, etc.* D. involucratus, *Pallas in Herb. Willd. n.* 8526. D. guttatus, *Bieberst. Fl. Tauric. Caucas. v.* 1. *p.* 382, *v.* 3. *p.* 300. *De Cand. Prodr. v.* 1. *p.* 358. D. pratensis, *Bieberst. Fl. Tauric. Caucas. v.* 1. *p.* 328, *v.* 3. *p.* 300. *De Cand. Prodr. v.* 1. *p.* 358. D. chloroleucus, D. tataricus *and* D. ochroleucus *of Fisch.* D. ibiricus, *Willd. De Cand. Prodr. v.* 1. *p.* 363. D. Willdenovii, *Link, etc.*

β. squamis calycinis tubum dimidium æquantibus v. brevioribus. *Ledeb. l. c. p.* 278. (Tab. Nostr. 3215.)

D. deltoides, *Georgi.* D. versicolor, *Fisch. De Cand. Prodr. v.* 1. *p.* 358. D. dentosus, *Fisch. et Reichenb. Pl. Crit. v.* 6. *p.* 32. *t.* 546. *Ledeb. Fl. Alta. v.* 2. *p.* 134. *Karel. et Kiril. Enum. Pl. Fl. Altaic. n.* 144, *etc.*

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This very pretty species of Pink is not uncommon in gardens, but it has gone under so many different names, that it is difficult to say which is its most correct one. It is a native of the south of Europe, and especially of a great part of Russia and Siberia. I here adopt the specific character and synonymy of Ledebour, and must refer to him for a more perfect list of the latter than I have thought it necessary or convenient to give here. My own herbarium contains authentic specimens from numerous authors which amply justify Ledebour in uniting so many species into one. The chief differences consist in the more or less compact flowers, and the relative length of the bracts and the calyx.

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Fig. 1. Petal. 2. Pistil:—*magnified.*

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# Tab. 5216.

## METHONICA GRANDIFLORA.

*Large yellow-flowered African Methonica.*

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Nat. Ord. Uvularieæ.—Hexandria Monogynia.

*Gen. Char.* (*Vide supra*, Tab. 4938.)

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Methonica *grandiflora;* scandens, floribus diametro 8-pollicaribus, petalis anguste lanceolatis vix undulatis primum reflexis rectiusculis demum horizontaliter patentibus, styli ramis elongatis unciam longis.

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At our Tab. 4938 we gave a figure of an African species of *Methonica*, Herm. (Gloriosa, *Linn. and some authors*), *M. virescens*, Lindl., which we cannot but regard as distinct from the well known *Gloriosa superba*, derived from extratropical Africa, which, after long cultivation, and in the same stove as the *Methonica superba* of India, retains all its characters, and these are mainly to be sought in the shape and direction of the petals, as explained in the description of the plate just referred to.

We have now the pleasure of representing a second (but tropical) African species, of which specimens and living roots were sent to us in the spring of this year (1860) from the island of Fernando Po, by our energetic plant-collector there, M. Gustav Mann. The growth from these tuberous roots has been very rapid, and the rafters of the stove were soon clothed with the leafy branches and the copious flowers, such as are here represented, from the month of July till the end of September. These flowers are as distinct from *M. virescens* as that is from *M. superba*. Indeed, this very western species agrees in the general structure of the flower better with the latter than with the former; but in our cultivated plant it is nearly twice the size of either of the other species, and the petals (totally different in colour) altogether want the remarkably crisped character of those of *M. gloriosa*. Here, too, the branches of the style are singularly elongated. Future researches may teach us whether the

three are or are not in reality forms of one and the same species.

The following notes, derived entirely from native samples in my herbarium, may help to clear up some of the difficulties attending the discrimination of the species, if, as I am inclined to believe, they be really such.

1. *Methonica superba*, Lam. (Gloriosa superba, *Linn.*).—All my Indian specimens, and the species seems to be exclusively Indian, and from various parts of that extensive region, Ceylon and the Madras Peninsula in the west, to Bengal and the Malay Peninsula, Tavoy (*Wallich*), Siam (*Schomburgk*), Banjermassing, Borneo (*Motley*) in the east, and to Kumaon (elev. 4,800 feet, in the north, *Strachey and Winterbottom*); all, without a single exception, exhibit the very narrow, refracted, and yet tolerably straight, deeply undulato-crispate petals, so characteristic of this species.

2. *M. virescens*, Lindl. (see our Tab. 4938).—Of this my decided native specimens, with quite spathulate petals, scarcely undulated, and never crisped, as in *M. superba*, are from South Africa, viz. Albany and Natal. My others are cultivated specimens from native roots; but all agree in the broad superior part of the petal, with the apices recurved over the centre of the flower. These petals are seldom seen in a horizontal position, in this respect agreeing with *M. superba*.

3. *M. Abyssinica*, Achil. Richard, from Abyssinia, as its name implies.—I have received this, with the above name attached, from the Mus. Herb. Paris (*n.* 346), and also from Dr. Hochstetter, under the name of *Clinostylis speciosa*, Hochst., in "Flora, 1844, p. 46." The height of each of my two specimens, including the rather long and stout tuber, is under two feet, and there appears no disposition to branch* or to be scandent; the leaves appear to be nearly all opposite, and the upper ones alone are cirrhiferous, with small and very weak tendrils. Can this be due to a dry soil and burning climate? The petals are very broad-lanceolate, (not dilated upwards,) apparently of a uniform orange-colour; one of the flowers has the refracted petals with recurved apices, as in *M. virescens*. But the stamens and style and anthers are shorter; and I may have erred in considering this a form of *M. virescens*, under our Tab. 4938.

4. *M. grandiflora*, Hook.—Specimens in my herbarium, which I would confidently refer to this, and agreeing with the characters here given, are from tropical, and chiefly tropical *Western*, Africa; Fernando Po, *n.* 72, *M. Gustav Mann;* Sierra Leone, *Mr. Morson*, from the Herb. of Robert Brown; Great Bassa

* I find among a collection of Abyssinian plants, lately the property of Mr. Robert Brown, a specimen evidently of the same plant, gathered by Dr. Rohr, at Alia Amba, which is branched and subscandent.

river, *Dr. Vogel;* very fine specimens, with all the flowers apparently yellow, but accompanied by the remark of Vogel, "flowers red; when young yellow." Good specimens from the late *Mr. Barter*, *n.* 164, from Aboh, with flowers apparently all over deep red; and again, *n.* 1517, "Niger," with rather smaller flowers; petals, with the lower half and more, yellow, the rest deep red, and a red line down to the base; and they are accompanied by this remark,—"A very variable plant in size and in the colour of its flowers, but the differences appear to be dependent merely upon the place of growth; thus, in deep shady ravines, the plant grows twelve feet high, with flowers pale yellow or almost green. In hot sandy plains it does not attain four feet in height, and the flowers are deep crimson. In general, however, the flowers are yellow, and not unfrequently have a crimson line up the centre. Negro girls place this flower in their hair with very pretty effect." Lastly, I possess, from Mozambique, on the east coast of tropical Africa, specimens gathered by Forbes, of which the flowers seem to be yellow, and which I can in no way distinguish from the *M. grandiflora* here figured. Even should these not prove permanently distinct, all the kinds are eminently deserving of cultivation. They are ready flowerers, and the foliage, as well as the differently coloured petals, render them highly ornamental.

Descr. General habit of the *plant* and *foliage* resembling the other species of the genus, but the growth is with us more vigorous and rampant. *Flower-buds* before expansion full three inches long. *Petals*, soon after the bursting of the bud, closely refracted and nearly straight, but before they attain their full size they fall into a horizontal position, and remain so at least for a day, at which period the flower seems to be in its most perfect state, measuring eight inches across, all over of a sulphur-yellow colour, green only at the broad claws: in withering the petals become tawny, and are marcescent. Their shape is narrow-lanceolate, scarcely waved at the margin: at the superior base is an elevated fleshy elongated *nectary*, deeply channelled and very downy. The *filaments* are more than two inches long, the *anthers* three quarters of an inch. *Style* three inches long; its branches one inch long: these are, both in *M. gloriosa* and *M. virescens*, very short. An unripe *capsule* measures three inches in length, and is deeply trisulcate.

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Fig. 1. A leaf from an older part of the plant,—*nat. size.* 2. Pistil,—*slightly magnified.*

W. Fitch, del. et lith.

Vincent Brooks, Imp.

# Tab. 5217.

## SARCANTHUS Parishii.

*Mr. Parish's Sarcanthus.*

Nat. Ord. Orchideæ.—Gynandria Monandria.

*Gen. Char.* (*Vide supra*, Tab. 4693.)

Sarcanthus *Parishii;* foliis loratis apice oblique bilobis obtusis, spicis simplicibus, sepalis petalisque breviter oblongis obtusis planis aureis vittis 2 parallelis rubris, labelli calcare ovario æquilongo curvato obtuso in labellum brevissimum subtrulliforme roseum producto.

Sent by the Rev. C. S. P. Parish, of Moulmaine, toMessrs. Low, of the Clapton Nursery, with whom it flowered in August of the present year.

Descr. *Plant* small, with the *stem* short, and apparently not tending to elongate, as in its curious terete-leaved congeners, *S. filiformis* and *S. teretifolius*. *Leaves* distichous, spreading, or recurved, four to five inches long, three-quarters of an inch broad, rather firm and fleshy, deep-green, keeled at the back from being somewhat longitudinally complicate, the apex very unequally and bluntly bilobed, with a shallow acute sinus. *Spikes* as long as the leaves, slender and flexuose, quite simple in our plant, shortly peduncled. *Flowers* rather loosely disposed, small, brightly-coloured, about one-third of an inch across. *Sepals* and *petals* shortly oblong, blunt, plane, golden-yellow, with two broad longitudinal red bands that do not extend beyond two-thirds of their length. *Lip* short, small, of irregular figure, pale rose-coloured, produced anteriorly into a short, broad, rather concave, trulliform lamina, and posteriorly into a curved, stout, cylindrical *spur* as long as the ovary.—*J. D. H.*

Fig. 1. Front view of a flower. 2. Side view of the column and lip. 3, 4. Front and side view of the pollen-masses:—*magnified.*

1.
2.

## Tab. 5218.

# CYRTANTHUS (GASTRONEMA) SANGUINEUS.

*Red-flowered Cyrtanthus.*

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Nat. Ord. Amaryllidaceæ.—Hexandria Monogynia.

*Gen. Char. Perigonium* superum, corollaceum, elongato-tubuloso-infundibulare, *limbo* 6-fidum curvatum, interdum parum ventricosum; laciniis brevibus, subæquilongis, multinerviis; *exterioribus* calloso-acutis; *interioribus* latioribus, obtusis. *Stamina* 6, supra medium tubi libera, recta (in *Gastronemate* conniventia, 3 deflexa), inclusa, alterna longiora. *Antheræ* lineares, dorso infra medium affixæ, mobiles. *Ovarium* inferum, trigonum, triloculare; *ovula* in loculis crebra, biseriata, funiculata, horizontalia (in sicco adscendentia, *Endl.*). *Columna* stylina filiformis, erecta vel declinata, stamina superans, exserta. *Stigma* leviter trifidum. *Capsula* trigono-ovata, trilocularis, loculicido-trivalvis. *Semina* plurima, paleaceo-compressa, testa nigra.—Herbæ *Capenses, bulbiferæ, scapigeræ.* Bulbus *tunicatus.* Folia *elongata, angusta, plana vel subcanaliculata.* Scapus *teretiusculus vel compressiusculus, fistulosus.* Spatha 2-*polyphylla, uni-multiflora.* Flores *pedicellati,* bracteis *linearibus scariosis interstincti, sæpe penduli. Kth.*

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Cyrtanthus (Gastronema) *sanguineus;* foliis solitariis lineari-spathulatis obtusis viridibus, caule unifloro longioribus, spatha diphylla tubo perianthii æquali, flore sessili vel pedunculato suberecto, tubo tereti in faucem obconicam ampliato, limbi patuli recurvi laciniis oblongis æqualibus concoloribus. *Lindl.*

Gastronema sanguineum. *Lindl. in Journ. of Hort. Soc. of Lond. v.* 3. *p.* 315 (*with a woodcut*).

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This is, as Dr. Lindley says, who first named and described it, a very handsome plant, deserving general cultivation, even in the most select collections. It is a native of Caffraria, and was imported by Messrs. Backhouse, the eminent nurserymen of York, and presented by them to the Horticultural Society of London in 1846. Dr. Lindley adopts the genus *Gastronema* of Herbert, which scarcely differs from *Cyrtanthus* but in the "filaments of the stamens being connivent, of which two are deflexed;" so that it is now generally considered a section of *Cyrtanthus.* It flowered in the greenhouse at Kew in August of the present year (1860).

Descr. The bulbous *root* we have not seen. The *leaves* are dark green, scarcely glaucous, radical, lanceolate, tapering into a

rounded *petiole*, slightly keeled at the back, and with a depressed line in front. The *stem* or *scape* is terete, subglaucous, hollow, three to four inches high, supports a solitary flower, and bears at its summit two long, whitish, linear, membranaceous *bracteas*. *Peduncle* (in our plant; wanting in the figure given by Lindley, where the ovary is sessile) two or more inches long, one-flowered. *Perianth* large, infundibuliform, tubular at the base, the limb very broad, of six oblong, spreading, recurved, mucronate *segments*, bright orange-red within, externally yellowish, with six red streaks. *Stamens* six, inserted at the throat, three longer than the rest, all connivent. *Ovary* oblong, dark-green. *Style* as long as the tube. *Stigma* three-cleft, the segments linear.

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Fig. 1. Flower, laid open. 2. Pistil:—*magnified.*

W Fitch, del. et lith.

Vincent Brooks, Imp.

## Tab. 5219.

# SONCHUS GUMMIFER.

*Gum-bearing Sow-thistle.*

Nat. Ord. Compositæ.—Syngenesia Æqualis.

*Gen. Char.* (*Vide supra*, Tab. 5211.)

Sonchus *gummifer;* fruticosus glaber glaucescens; foliis subpectinato-pinnatipartitis, pinnis cum lobo terminali oblongo-triangulari acutis dente uno alterove munitis, radicalibus (seu inferioribus) minute auriculatis, caulinis parvis cordato-auriculatis; corymbi compositi (vel pauciflori) pedicellis subnudis (apice insigniter dilatatis spongiosis coloratis), capitulis post anthesin cernuis; involucri imbricati squamis exterioribus ovatis acutis interioribus linearibus, receptaculo areolato floribus glabris, acheniis striatis glabris, pappo caduco niveo subuniseriali. *Webb.*

Sonchus gummifer. *Link (ex Webb, qui specimen herbarii Berolin. comparavit) in Buch. Canar. p.* 146 *et* 164. *Webb, Canar. t.* 129. *Spreng. Syst. Veget. p.* 647. *De Cand. Prodr. v.* 7. *p.* 188.

This is another of the fruticose *Sonchuses*, which appear to be almost peculiar to the Canary Islands, and which our friend Mr. Wilson Saunders has lately introduced to his and other English gardens. The *Sonchus radicatus* of Aiton is given at our Tab. 5211: the present species is very different in its foliage, and in the much taller shrubby stem. I refer it to the *S. gummifer* of Link and Webb with some degree of doubt, for the flowers are larger, and fewer upon a panicle, and there is at the apex of the pedicels a remarkable coloured expansion of a spongy nature, somewhat resembling the apophysis of a *Splachnum*, which is neither figured nor described by Webb. In all other respects the two appear to be identical, and the distinct presence of this apophysis may be due to the specimen from which our figure is taken being a living one. It flowered in Mr. Saunders's greenhouse at Reigate in July, 1860. It was received by that gentleman from Dr. Bolle, who found it in rocky places. In regard to the specific name of *gummifer*, Mr.

Webb observes, l. c.: "Omnes *Cichoriaceæ* vulneratæ succum fundunt lacteum, in gummi sic dictum coagulans, præcipue *Sonchi*, non vero præ aliis species nostra, quare nomen Linkii specificum non characteristicum.".

Descr. *Stem* fruticose, but greenish, two to three feet high, erect or flexuose, nearly as stout as one's finger. *Leaves* approximate, broad-lanceolate, glaucous green, lanceolato-runcinato-pinnatifid rather than pinnate, winged below, auriculate, and semi-amplexicaul; the segments subovate, acute, often deflexed, here and there irregularly toothed. *Panicle* terminal (in our specimen few-flowered). *Pedicels* two to three inches long, foliaceo-bracteated at the base, just beneath the flower expanding into a large spongy red-brown, turbinate or hemispherical apophysis, which supports the *capitulum*. *Involucre* small, of a few imbricated green scales, with a whitish margin, outer ones short, interior ones oblong. *Florets* all uniform, yellow. *Corolla* with the tube pubescent. *Ovary* narrow, oblong, crowned with a white silky pappus. *Style* downy. Branches of the *stigma* long-linear, revolute.

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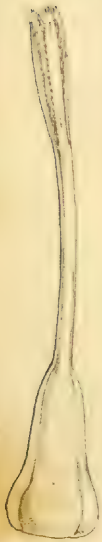
Fig. 1. Floret. 2. Hair from the pappus. 3. Apex of style:—*magnified.*

2.



3.

1.

W. Fitch del. et lith.

# Tab. 5220.

## GUZMANNIA TRICOLOR.

*Three-coloured Guzmannia.*

Nat. Ord. Bromeliaceæ.—Hexandria Monogynia.

*Gen. Char. Perigonii* liberi sexpartiti *laciniæ exteriores* calycinæ æquales, basi cohærentes, spiraliter convolutæ, *interiores* petaloideæ, inferne teneriores in tubum convolutæ, apice firmiores, erectæ, basi intus nudæ. *Stamina* 6, hypogyna; *filamenta* basi perigonii laciniis interioribus agglutinata, superne latiora, apice connata; *antheræ* dorso affixæ, utrinque acutæ, in cylindrum coalitæ. *Ovarium* liberum, triloculare. *Ovula* in loculorum angulo centrali prope basim plurima biseriata, adscendentia, anatropa. *Stylus* filiformis; *stigmata* 3, linearia, brevia, erecta. *Capsula* cartilaginea, oblongo-cylindracea, trilocularis, loculicido-trivalvis, valvis endocarpio mox soluto duplicatis, explanatis vel tortis. *Semina* plurima, e basi dissepimentorum erecta, oblonga, acuminata, pilis papposis stipata.—Herba *Americana tropica;* foliis *radicalibus lineari-ensiformibus cartilagineis, planis, basi involutis;* scapo *inferne squamoso,* floribus *spicatis inter bracteas latentibus. Endl.*

Guzmannia *tricolor.*

Guzmannia tricolor. *Ruiz et Pav. Fl. Per. et Chil. v.* 3. *p.* 38. *t.* 261. *Lodd. Bot. Cab. t.* 462. *Lindl. Coll. Bot. t.* 8. *Hook. Exot. Fl. t.* 163 (*bis*). *Rœm. et Schult. Syst. Veget. v.* 7. *p.* 1231.

Pourretia sympaganthera. *Ruiz et Pav. Syst. p.* 82.

When in flower this is a very gay-coloured and handsome Bromeliaceous plant, and deserves the name *quadricolor* as much as or better than *tricolor*, for it exhibits in its inflorescence four very striking and different colours; the numerous and large closely imbricated bracts are, below, yellow-green, deeply and longitudinally streaked with purplish-black; the superior bracts are bright red, and the flowers are pure white. It was first described as a native of Peru, but has since been found in Guayaquil, in St. Domingo, and in Jamaica. It is easily cultivated in a moist stove, and blossoms in the summer months. Only one species of this pretty genus is known.

Descr. This quite resembles a *Tillandsia* or *Bromelia* in its mode of growth, and is everywhere glabrous. *Leaves* all radical, broad, linear-ensiform, involute, and broad and concave at the

sheathing base, the rest broadly channelled, minutely striated, the margin quite entire, the apex rather apiculate than acuminate; colour a full green; their length varies from one to two feet. *Scape* as long as the leaves, central, erect, almost resembling, with its young inflorescence, a head of Asparagus, below, at the very base, clothed with long, sterile, acuminated *bracteas*, above with short, ovate, acute, closely imbricated fertile ones, these of a bright and pale yellow-green, richly streaked with blackish-purple; towards the apex of the spike they are tinged with red, and at the very apex they are rich scarlet. *Calyx* deeply cut into three oblong segments, rigid and white, erect. *Corolla* white. The other parts of the flower are as described in the generic character.

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Fig. 1. Bract, with its flower. 2. Corolla, laid open. 3. Pistil.

W. Fitch, del. et lith.

Vincent Brooks Imp.

# Tab. 5221.

## CHAMÆROPS Fortunei.

*Mr. Fortune's Chamærops.*

Nat. Ord. Palmæ.—Polygamia Diœcia.

*Gen. Char. Flores* polygamo-dioici (alii hermaphroditi, alii masculi in eadem vel in diversa stirpe), in spadice spathis (2–4) incompletis cincto, sessiles, vel breviter pedicellati, bracteati.—Masc. *Calyx* exterior 3-partitus; *interior* 3-sepalus; præfloratio valvata. *Stamina* 6–9; *filamenta* basi connata; *antheræ* lineari-oblongæ, basi cordatæ (ovatæ v. oblongæ, *Endl.*). *Ovaria* tria, rarius plura, distincta. *Stigmata* subulata, sessilia (subsessilia, *Endl.*). *Baccæ* tres, rarius plures, interdum abortu pauciores, 1-spermæ. *Albumen* corneum, irregulariter ruminato-variegatum. *Embryo* dorsalis.—Plantæ *subacaules vel caudice donatæ, mediocri, irregulariter cicatrizato, et* frondium *basibus persistentibus coronata.* Frondes *palmato-multifidæ, rigidulæ: laciniis induplicatis, apice fissis, filis interjectis nullis;* petioli *margine aculeis patentibus serrati vel denticulati, basi in fibrillitiem sæpe amplum extensi.* Spatha *coriacea, oblique aperta.* Spadix *simpliciter vel composito-ramosus, dense floriger; ramis spathellatis.* Flores *flavi v. flavo-virescentes.* Baccæ *olivæformes vel subglobosæ, flavescentes, fuscidulæ aut cyaneæ;* carne *spissa, parca.* Nuclei *fusci, numerus partium floris, haud raro auctus, loco ternario quaternarius, quinarius vel senarius. Kth.*

Chamærops *Fortunei;* polygamo-dioica, caudice mediocri frondium fibrillitie panniformi caudice appresso, petiolis margine inermibus aut denticulato-scabriusculis, laminæ digitato-multipartitæ laciniis apice pendulis linearibus obtusiusculis bidentatis v. breviter bifidis, spadice paniculato-ramoso, ovariis hirsutis.

Chamærops excelsa *of English gardens.*

The Palm above described is now well known as "Mr. Fortune's Chusan Palm," and has attracted considerable attention on account of its comparative hardiness. It is indeed the most hardy of all these princes of the vegetable kingdom that is as yet known to us, and the only one that has been proved to stand almost unprotected throughout the last ten winters in the latitude of London. In the Isle of Wight, under the shelter of the Royal residence of Osborne, it has attained a height of ten feet in the open air, six feet being the height of the stem below the foliage, and its diameter fourteen inches at one foot from the ground; it has blossomed for the last three years, with no protection during the winter.* Our plants at Kew were introduced by Mr. Fortune, in 1849, and have attained eight feet in height; the finest are moved into a conservatory during the winter, but others receive no other protection than a matting in the severest winter months.

We have taken great pains to determine the name and affinity

* *Chamærops humilis* is also flourishing in the open air at Osborne, but requires a little protection in the severest weather.

of this interesting plant, which certainly approaches very closely indeed to the *C. excelsa*, Mart., a species discovered and described by Thunberg, figured by Martius, and of which a noble specimen, twenty-eight feet high, received from Japan, through Dr. Siebold, flourishes in the Palm house at Kew. To this we were strongly inclined to refer Mr. Fortune's palm, notwithstanding that the *C. excelsa* was never supposed to be even half-hardy, both because of its near resemblance and because Thunberg states *C. excelsa* to be a native of China and only introduced into Japan. Mr. Smith, however, has always considered them different, and after a close comparison we are disposed to agree with him, on the following accounts:—*C. Fortunei* is a more robust species, with more compact and appressed matted network of fibres amongst the bases of the petioles, much stouter shorter petioles, less glaucous more shining foliage, far broader segments of the leaves, and pendulous apices to these. The flowers of the two are nearly alike, and the fruit of *C. Fortunei* is unknown; that figured for it at Figs. 6 and 7 of our Plate was introduced by error, and should be expunged.

Descr. The *caudex* or *stem*, in its native climate, eight to twelve feet high (exclusive of the crown of leaves), the lower portion marked transversely with the numerous scars of the fallen leaves, the upper portion exhibits the bases of the petioles of the old leaves, mixed with a good deal of coarse transverse fibre, which also abounds among the perfect foliage. *Fronds* forming a handsome, more or less spreading crown to the caudex. *Petioles* a foot and a half or more long, convex below, nearly plain above, the margin quite unarmed, or very obscurely toothed, in which respect it differs widely from the better-known *Ch. humilis*. *Lamina* semiorbicular, flabellate, a foot and a half long and broad, deeply plaited, cut for about a half or more of the way down into numerous linear *segments*, which are $\frac{3}{4}$–1 inch broad, pendulous towards their apices. *Spadix* small in proportion to the plant, and consequently not very conspicuous, emerging from several imbricating leafy *bracts*, forming the *spatha*, and constituting a dense thyrsoid *panicle*, more than a span long, and clothed with yellow flowers, scarcely so large as those of the Lily of the Valley. *Peduncles* and *primary branches* thick: *ultimate branches* pubescent. *Flowers* sessile, rarely perfect, mostly male or female. *Calyx* small, of three sepals. *Corolla* of three orbicular petals. *Stamens* inserted on the base of the petals. *Ovaries* three, ovate, hairy, tapering upwards into a thick subulate style.

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Fig. 1. Very reduced figure of flowering plant. 2. Spatha and spadix:—*natural size*. 3. Female flower. 4. Petal and stamen. 5. Ovaries. (N.B. Figures 6 and 7 are fruits of another plant, unintentionally introduced, and are to be cancelled):—all but Figs. 1 and 2 *magnified*.

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W.Fitch, del. et lith.

Vincent Brooks, Imp.

# Tab. 5222.

## SOLANUM RUNCINATUM.

*Runcinate-leaved Solanum.*

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Nat. Ord. Solanaceæ.—Pentandria Monogynia.

*Gen. Char. Calyx* 5-(rarius 4–6–10-)partitus, fidus, dentatus crenatusve atque etiam integer. *Corolla* rotata, cupularis vel patellaris, tubo brevi, limbo plicato, 5-(rarius 4 vel 6-)fido, partito vel angulari. *Stamina* 5, rarius 4 vel 6, corollæ fauci adnata, plerumque exserta; *filamenta* brevissima, æqualia vel rarius inæqualia. *Antheræ* liberæ, apice poris geminis dehiscentes, conniventes, rarissime connatæ, æquales vel interdum inæquales, loculis lateribus connectivo non conspicuo adnatis. *Ovarium* 2- (rarius 3–4) loculare, placentis dissepimento insertis adnatis multiovulatis. *Stylus* simplex. *Stigma* obtusum. *Bacca* 2-(rarius 3–4)locularis. *Semina* plurima, subreniformia, compressa. *Embryo* periphericus, spiralis, albumen carnosum includens. *Dunal.*

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Solanum (§ Pachystemonum) *runcinatum;* caule herbaceo procumbente angulo so succoso fragili, foliis puberulis pinnatifidis 5–7-lobis, lobis sinubusque obtusis, corollis revolutis 5-fidis, laciniis late ovatis acutis, baccis parvis globosis.

Solanum runcinatum. *Ruiz et Pav. Fl. Peruv. et Chil. v.* 2. *p.* 36. *Rœm. et Schult. Syst. Veget. v.* 4. *p.* 579 *in not. Spreng. Syst. Veget. v.* 1. *p.* 678 (*sub* S. quercifolium). *De Cand. Prodr. v.* 13. *P.* 1. *p.* 70.

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The genus *Solanum*, notwithstanding it is now shorn of many of its original species, still, on account of the numerous recent additions by the researches of botanists and travellers, includes, under two primary sections and numerous subsections and divisions and subdivisions, no less than 834 species, according to Dunal, in De Candolle's 'Prodromus.' Our present species, in that work, ranks under the first section, *Pachystemonum*, and the third subsection, *Dulcamara*, the same to which our *Bitter-sweet* belongs. It is a native of Chili, and was raised at Kew, from seeds sent from Coquimbo. It is a really ornamental species, and well deserving of cultivation in a greenhouse, continuing a long time in flower during the summer months. The corollas are of a bright purple-colour, with five blood-red starry points radiating from the base of the lobes, while the large anthers are yellow, from between which the green clavate stigma is protruded.

Descr. The *plant* is herbaceous, yet perennial. The *stems* more or less procumbent or ascending, angled, green, slightly glanduloso-pubescent. *Leaves* alternate, two to three inches long, with five or nine undulate segments, waved at the margin, but otherwise entire: these segments are oblong, obtuse, five to seven on each leaf. The *flowers* droop and form a compound *cyme*, with slender *pedicels*. The *corolla* as large as and the shape of that of *S. tuberosum*, of a rather bright colour, with five rays of dark blood-colour. The *anthers* oblong, bright, almost golden-yellow, and very conspicuous: *filaments* very short. *Ovary* glabrous, oval; *style* thick, flexuose, pubescenti-villous. *Stigma* large, club-shaped, green.

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Fig. 1. Stamen. 2. Pistil:—*magnified.*